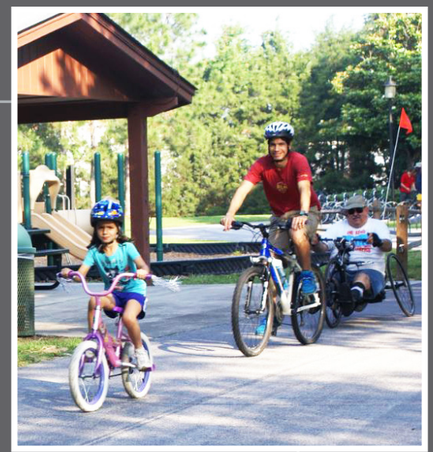
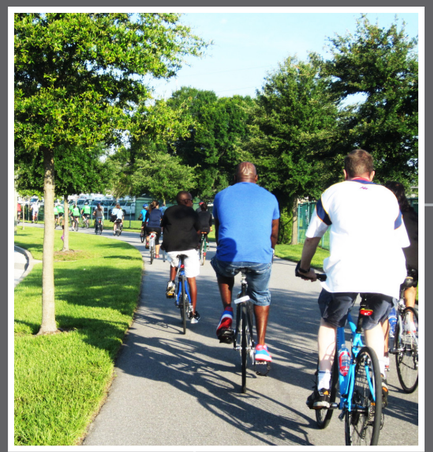
Appendix A: Primary Bike Routes Study

FINAL REPORT

Orlando Primary Bicycle Route Study






Prepared for:

DECEMBER 2014

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Executive Summary

Introduction

The Orlando Primary Bicycle Routes Study sets the course for closing key gaps within the City of Orlando's bicycle facility network and making sound investments to improve Orlando's bicycle infrastructure. For the purposes of this study, a "primary bicycle route" is defined as a route that supports family-friendly travel by bicycle; routes should be usable, safe and welcoming for bicyclists of all ages and abilities, from elementary school-aged children to seniors, and support bicycle travel for both recreational and transportation purposes.

Due to the physical separation from traffic, off-street trails are typically more family-friendly than on-street bicycle facilities, and therefore the focus of this study is primarily on trails. However, the study also incorporates on-street signed routes on low speed, low volume neighborhood streets; these low stress, quiet streets can provide easy and safe ways to make connections by bicycle. On-street facilities in more intimidating environments, such as conventional bike lanes or signed bicycle routes on more significant roadways (collectors and arterials), are generally not considered to be primary bicycle routes in this study.

While this study is not intended to serve as a City-wide bicycle master plan, it does provide the foundation to begin implementation of a network of interconnected family-friendly routes for bicycle travel that will serve as the spine of the City's bicycle network. The corridors included in this study are primarily trail corridors and connectors that had been identified on the City-Wide Trail Plan map based on planning work that had occurred over a number of years; the study also includes several additional corridors identified to fill gaps in the overall City trail network. This study advances those identified corridors to the next step in the implementation process by assessing their feasibility.



The purpose of this study is to complete a comprehensive review of the City's proposed trail network and evaluate the feasibility of the network and primary bicycle routes. Key aspects of this feasibility study are to:

- confirm the proposed trail and route alignments as the most appropriate and beneficial for bicyclists and the community
- evaluate issues and opportunities
- determine available and needed right-of-way
- coordinate with City staff in various departments as well as staff from adjoining municipalities on proposed trails and routes
- develop planning-level cost estimates
- prioritize trail projects for implementation by the City or other agencies

Corridor Prioritization & Assessment

A total of 44 potential bicycle trail corridors and routes were prioritized to establish the overall City-wide ranking for primary bicycle routes, as well as to set preliminary screening levels (high, medium, low) for the assessment of various corridors. The prioritization criteria used to rank the proposed bicycle corridors included seven categories:

1. Connects to Statewide Trail Corridors
2. Connects Directly to Other Local/Regional Trails
3. Connects to Significant/Iconic Orlando Landmarks/Areas
4. Connects to Other Area Transit / Transportation Systems
5. Connects to Significant City Destinations
6. Total Population and Employment Density
7. Removes Barriers

The study screening levels are described as follows:

- The **High** level is a detailed corridor evaluation of the highest scoring trails corridors, including a detailed field review of the feasibility of the trail. A total of six corridors were screened at the High level.
- The **Medium** level is a moderate corridor evaluation of trails and high-scoring on-street routes. Medium screenings include office-level reviews and windshield field reviews, with concepts being developed in less detail compared to the High screening level. A total of six corridors were screened at the Medium level.
- The **Low** screening level is an office-level review of potential corridors that were not excluded from review. A total of 13 corridors were screened at the Low level.
- A total of 19 identified and ranked corridors were **excluded** from further evaluation because they were already in design or are to be developed by others, such as Orange County, Greater Orlando Aviation Authority (GOAA), or private developers. Many of these corridors are entirely or nearly entirely outside the City boundaries, but are included on the City-wide map to show potential connections.

A corridor concept summary was prepared for each of the 25 corridors at high, medium, and low screening levels, with content and detail varying based on the screening level. The concept summary sheets are intended to be usable as stand-alone documents and provide maps, photos, and concise information related to issues and opportunities specific to that trail concept.



Executive Summary

Some corridors include both a preferred route as well as one or more alternative routes. Alternative routes are proposed where the preferred route may have implementation challenges (particularly in the near term), or to create a loop trail or route, connect additional destinations, or simply to provide multiple routing options.

A planning-level cost has been estimated for each trail corridor, which includes design and construction. Trails have been broken into implementable segments based on typical grants and available funding amounts, with total segment costs typically below $4 million.

Table ES-1 presents the prioritized bicycle corridor list with project ID numbers, project names/descriptions, map quadrant, facility type, screening level, length, total prioritization score, and planning-level project cost. The summarized costs represent the preferred routes only. The priority ranking provides general guidance and is based on the criteria scoring completed at this point in time. However, the order in which projects are implemented is flexible based upon opportunities such as funding and partnerships

A series of maps present the updated City-wide trail plan. An overall City map is provided, followed by individual quadrant maps and a Downtown area map. Each of the maps presents the preferred routes only; the quadrant maps also show the route ID numbers.

Implementation

Trail and corridor-specific implementation steps are included in each corridor concept summary in Section 5. Recommended general trail plan implementation steps include the following:

1. Develop a City methodology to track projects that may provide opportunities to include design and/or construction of trail segments and trailheads.
2. Seek out opportunities for partnerships with other agencies.
3. Initiate early coordination efforts for the planning and development of trail segments that are proposed to cross or be placed adjacent to rail corridors.
4. Review and update policies and codes to reflect goals and objectives of this plan, and to ensure compatibility and consistency. Specific codes and policies that should be reviewed or addressed include: bicycle use on sidewalks; use and implementation of shared lane markings (“sharrows”); school property access and improved connections; wayfinding between trails/routes and nearby destinations; developer requirements; trail maintenance responsibilities, frequency, and funding; and security.
5. Develop and design trails to be context-sensitive, reflecting the unique environment adjacent to the trail corridor and increasing the “City Beautiful” image. Considerations include trail width; “Complete Streets” elements; landscaping; coordination with companion efforts such as Bike Share, Bike Stations, and signal timing; signage; opportunities for public art; trail furniture; lighting; materials; Crime Prevention through Environmental Design (CPTED); emergency access; limiting utility encroachments; and maintenance.
6. Incorporate programming and management of the built trail system, which is important to the trail user.
7. Continue to promote the trails program to all user groups.
8. Aggressively pursue various funding opportunities to advance implementation of the City-wide trail and primary bicycle route network.

Stakeholder Engagement and Coordination

The study included several opportunities to engage with and get feedback from key stakeholders and members of the public regarding primary bicycle routes and trails, prioritization of corridors, and other information. These opportunities included the following:

- Agency kickoff meeting – held February 18, 2014 and attended by 15 agency staff members representing 9 different agencies.
- Public meeting – held the evening of February 18, 2014 at Loch Haven Center. Approximately 40 members of the public and agency staff attended the meeting, about one-quarter of whom rode a bicycle to the meeting.
- Interactive online engagement – the interactive Engage Orlando website (and Mindmixer platform) was used to get online community feedback on several big-picture topics relating to the City’s trail and bicycle network, and resulted in more than 1,200 views, 370 interactions, 30 responses, and 39 comments.
- Quadrant workshops – a series of four one-day workshops was held with City staff and other key stakeholders such as FDOT and MetroPlan Orlando staff, each focused on a specific quadrant or area. These workshops facilitated corridor and project-specific discussions on alignment options, issues, constraints, and opportunities, as well as knowledge transfer related to historical and current projects and information.







Table ES-1 Prioritized Bicycle Corridor Summary

Priority Rank	City Quadrant	Segment ID#	Name/Description	Facility Type	Study Screening Level	Comment	Trail Length (mi)	Total Weighted Prioritization Score	Planning-Level Project Cost (Design + Construction)	Cost Source
1	N	9	Downtown Central Corridor, Downtown to Amtrak/ORHS SunRail	Trail	High		2.5	76	$ 3,220,000	1
2	N	38	North College Park Connector, OBT/Silver Star to FL Hospital SunRail	On-street	Med	Maximum level of study for on-street route is medium	3.1	70	$ 150,000	1
3	W	6	OUT West Segment 1, Tampa Ave to Downtown	Trail	High		1.1	69	$ 1,660,000	1
4	N	29	Downtown Connector	Trail	High		2.4	64	$ 3,800,000	1
5	N	31	Gertrude's Walk, Amelia to Washington	Trail	---	LYNX design project	0.5	64	$ 1,600,000	4
6	N	32	OUT, SR 50 Bridge	Trail	---	City design-build project	0.4	63	$ 9,196,000	5
7	N	35	Cady Way Fashion Square Connection	Trail	---	Trail completion is development condition	0.2	62	$ 300,000	2
8	E	17	Lake Underhill Path - SR 436 Bridge	Trail	Low	Feasibility study for SR 436 bridge complete	0.8	61	$ 60,000	1
9	W	5	OUT West Segment 2,Shingle Creek Trail Spur to Tampa Ave	Trail	High		2.9	60	$ 4,500,000	1
10	N	33	OUT, SR 50 Bridge to Dinky Line	Trail	High	Short but critical connector	0.4	58	$ 2,900,000	1
11	N	46	Downtown Orlando Urban Bikeways	On-Street	Med		2.8	58	$ 4,090,000	1
12	N	34	North College Park Connector, Lake Lawne Tr to OUT	On-street	Med		2.0	58	$ 1,300,000	1
13	E	12	Conway East-West On-Street Connector, I-4/Michigan to Avalon Trail	On-Street	Low	On-street route, majority outside City boundaries	6.4	58	$ 2,440,000	1
14	W	8	Parramore Connector Route, OUT to 28th St	On-street	Med		1.7	56	$ 130,000	1
15	N	30	Fairgreen Street Trail	Trail	---	To be incorporated as part of proposed roadway	1.3	56	$ 1,679,000	2
16	W	1	N-S Trail, OBT/All American to Maitland Blvd	Trail	---	Outside City boundaries	2.9	52	$ 3,903,000	2
17	E	13	Avalon Trail, E of SR 436	Trail	---	Included in Orange Co Trails Master Plan	16.3	47	$ 15,700,000	3
18	W	10	Vineland Road Trail	Trail	Low		0.4	46	$ 640,000	1
19	W	7	Catalina - Holden Heights Connector, Shingle Creek Tr Spur to Division	On-street	Med		3.1	44	$ 3,730,000	1
20	W	44	Lake Lawne Trail	Trail	Med		3.9	44	$ 5,290,000	1
21	E	18	Engelwood Trail	Trail	High		2.6	42	$ 2,990,000	1
22	W	11	Millenia Trail Connectors	Trail	Low	Majority outside City boundaries	3.0	42	$ 3,800,000	1
23	E	36	Andes Ave Trail, Lake Underhill Path to Fairgreen St	Trail	---	To be developed by GOAA	1.5	41	$ 2,054,000	2
24	E	16	Azalea Park Trail, Lake Underhill Path to Goldenrod Rd	Trail	---	Included in Orange Co Trails Master Plan	2.0	40	$ 9,250,000	3
25	E	42	Airport North On-Street Connector, Avalon Tr to Heintzelman Blvd	Trail	Low		5.3	39	$ 1,590,000	1

Table ES-1 Prioritized Bicycle Corridor Summary (continued)

Priority Rank	City Quadrant	Segment ID#	Name/Description	Facility Type	Study Screening Level	Comment	Trail Length (mi)	Total Weighted Prioritization Score	Planning-Level Project Cost (Design + Construction)	Cost Source
26	W	2	OBT Trail, Lake Lawne Tr to Rosemont	Trail	Low		3.5	38	$ 3,410,000	1
27	S	39	E-W Corridor (Sand Lake Rd), Boggy Creek Rd to Shingle Creek Tr	Trail	---	Almost entirely outside City boundaries	6.9	38	$ 9,237,000	2
28	W	3	Mercy Drive Connector, Pres. Barack Obama Pkwy to Lake Lawne Tr	On-street	Low		2.0	36	$ 670,000	1
29	E	19	Azalea Park Trail, Power Easement to Avalon Tr	Trail	---	Included in Orange Co Trails Master Plan	2.0	36	$ 9,250,000	6
30	S	41	OIA Intermodal Terminal Connector Trail	Trail	---	To be developed by GOAA	3.9	35	$ 5,177,000	2
31	E	40	Conway N-S On-Street Connector, Downtown Conn to Sand Lake Rd	On-street	Low		7.5	32	$ 670,000	1
32	W	4	Carver Shores Trail	Trail	Low		0.7	30	$ 660,000	1
33	S	28	Southport Trail, Boggy Creek Rd to Jetport Dr	Trail	Low		3.5	30	$ 5,200,000	1
34	W	37	Valencia - Shingle Creek Trail Connector	Trail	Low		0.6	30	$ 830,000	1
35	S	25	Dowden Rd-Lake Nona Connector Trail	Trail	---	To be developed by GOAA/Lake Nona	2.8	29	$ 3,817,000	2
36	S	23-24	Narcoossee Rd Trail, Lake Nona Gas Easement to Lake Nona HS	Trail	Low		3.4	28	$ 3,980,000	1
37	E	14-15	Vista East Trail, Avalon Tr to SR 528	Trail	Low		3.7	25	$ 3,520,000	1
38	S	45	Boggy Creek Rd Trail, Tradeport Dr to Meadow Woods Tr	Trail	---	To be developed by GOAA	3.9	24	$ 5,160,000	2
39	S	43	East Airfield Perimeter Trail	Trail	---	To be developed by GOAA	3.8	24	$ 5,081,000	2
40	S	22	Lake Nona Gas Easement Trail, E of Narcoossee Rd	Trail	---	30% design plans already developed	1.2	22	$ 1,604,000	2
41	S	27	Meadow Woods Trail, Boggy Creek Rd to Lake Nona Blvd	Trail	---	Included in Orange Co Trails Master Plan	2.1	22	$ 17,150,000	3
42	S	21	Randall Johnson Trail Loop, SR 528 to Dowden Rd	Trail	---	Implement trails via Bal Bay / Randal Park master plans	4.6	18	$ 6,192,000	2
43	S	20	Vista East Trail, SR 528 to Dowden Rd	Trail	---	Implement trails via Bal Bay / Randal Park master plans	2.4	16	$ 3,234,000	2
44	S	26	Split Oak Forest Trail, E of Narcoossee Rd	Trail	---	Outside City boundaries	4.4	8	$ 5,873,000	2
Total									$ 176,687,000	

Cost Sources:

1. Planning-level project cost, including design and construction, HDR.
2. Generalized cost per mile of trail design and construction ($1,340,000), based on average cost per mile for preferred route trail projects, HDR.
3. Orange County Trails Master Plan, August 2012.
4. http://www.golynx.com/corporate-info/what-we-are-working-on/lynx-orlando-trail.stml
5. FY 2014/15-2018-19 Orlando Urban Area Transportation Improvement Program, MetroPlan Orlando, adopted July 9, 2014
6. ID #19 is an alternative alignment for ID #16 (Azalea Park Trail, Orange County Trails Master Plan) and cost shown is the same as for ID #16.

CITY OF ORLANDO

City Wide Trail Plan

Figure ES-1
City Wide Map

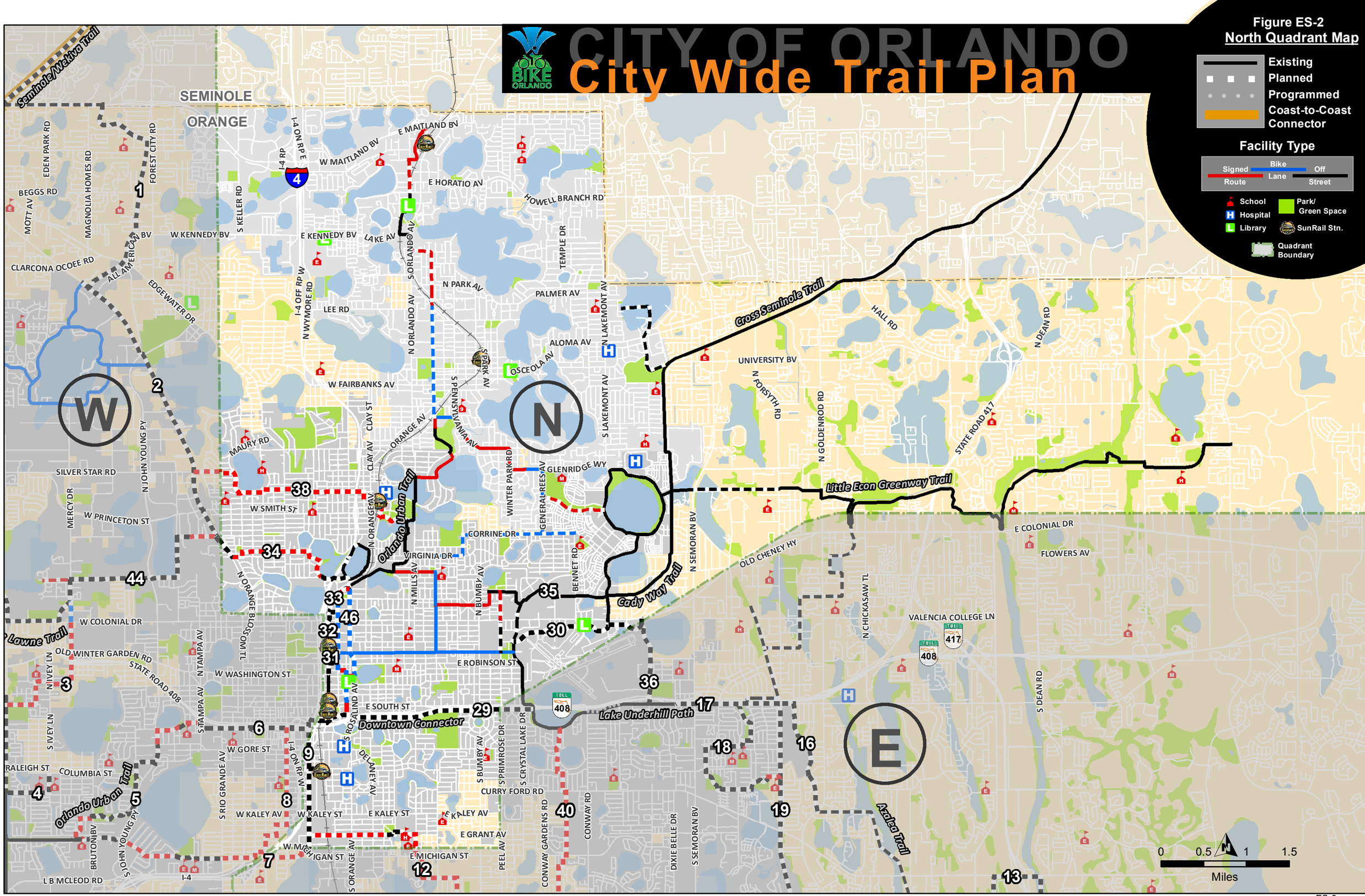
Existing
Planned
Programmed
Coast-to-Coast Connector

Facility Type

Signed Route | Bike Lane | Off Street

School
Hospital
Library
Park/ Green Space
SunRail Stn.

Seminole/Wekiva Trail
To Altamonte Springs
To Casselberry
To Winter Garden
Clarcona/ Ocoee Trail
Pine Hills Trail
Lake Lawne Trail
Orlando Urban Trail
Shingle Creek Trail
Meadow Woods Trail
Cross Seminole Trail
To Oviedo
Little Econ Greenway Trail
To UCF
Cady Way Trail
Downtown Connector
Lake Underhill Path
Azalea Park Trail
Avalon Trail
To Avalon Park
Vista East Power Easement Trail
Orlando Int'l Airport
To Moss Park
To Split Oak Forest
Lake Nona /Poitras Wetland Trail
To Kissimmee
SEMINOLE
ORANGE
ORANGE
OSCEOLA


CITY OF ORLANDO
City Wide Trail Plan
BIKE ORLANDO
Figure ES-2
North Quadrant Map
Existing
Planned
Programmed
Coast-to-Coast Connector
Facility Type
Signed Route
Bike Lane
Off Street
School
Hospital
Library
Park/ Green Space
SunRail Stn.
Quadrant Boundary
SEMINOLE
ORANGE
Seminole/Wekiva Trail
Cross Seminole Trail
Little Econ Greenway Trail
Cady Way Trail
Orlando Urban Trail
Downtown Connector
Lake Underhill Path
Azalea Trail
W
N
E
0 0.5 1 1.5
Miles

CITY OF ORLANDO

City Wide Trail Plan

BIKE ORLANDO

Figure ES-3
South Quadrant Map

Existing
Planned
Programmed

Facility Type

Signed Route | Bike Lane | Off Street

School
Hospital
Library
Park/ Green Space
SunRail Stn.
Quadrant Boundary

10 11 39 40 42 15 43 21 20 22 23 28 41 25 24 26 27 45

CONROY RD AMERICANA BV
VINEVILLE RD
TURKEY LAKE RD
HOLLYWOOD WY
S KIRKMAN RD
I-4 ON RP E
I-4 OFF RP W
MAJOR BV
I-4
I-4 RP
MILLENIA BV
W OAK RIDGE RD
S TEXAS AV
S RIO GRANDE AV
S JOHN YOUNG PY
CHANCELLOR DR
PREMIER RW
MANDARIN DR
W LANCASTER RD
WINEGARD RD
ANSELL AV
NELA AV
JUDGE RD
LEE VISTA BV
S SEMORAN BV
DAETWYLER DR
CONWAY RD
W SAND LAKE RD
E SAND LAKE RD
MCCOY RD
JETPORT DR
STATE ROAD 528
Shingle Creek Trail
FLORIDAS TURNPIKE
W LANDSTREET RD
E LANDSTREET RD
4TH ST
BOGGY CREEK RD
TRADEPORT DR
TRADEPORT DR N
AIRPORT BV W
AIRPORT BV E
SOUTH ACCESS RD
Orlando Intl' Airpot
UNIVERSAL BV
INTERNATIONAL DR
I-4 OFF RP E
WESTWOOD BV
ORANGEWOOD BV
I-4 ON RP W
CENTRAL FLORIDA PY
S ORANGE BLOSSOM TL
TAFT VINELAND RD
S ORANGE AV
WHISPER LAKES BV
INTERNATIONAL DR S
W WETHERBEE RD
E WETHERBEE RD
LANDSTAR BV
HEINTZELMAN BV
Meadow Woods Trail
W TOWN CENTER BV
TOWN LOOP BV
HUNTERS CREEK BV
STATE ROAD 417
E TOWN CENTER BV
RHODE ISLAND WOODS CR
BEACON PARK BLVD
WARD RD
Lake Nona /Poitras Wetland Trail
ORANGE
OSCEOLA
E OSCEOLA PKWY
W OSCEOLA PKWY
OLD DIXIE HWY
BOGGY CREEK RD
TOLL 528
TOLL 417
TOLL 522
FLORIDA'S TURNPIKE

0 0.6 1.2 1.8
Miles

CITY OF ORLANDO

City Wide Trail Plan

BIKE ORLANDO

Figure ES-4
East Quadrant Map

Existing
Planned
Programmed

Facility Type

Signed Route | Bike Lane | Off Street

School
Hospital
Library
Park/ Green Space
SunRail Stn.
Quadrant Boundary

W
N
E
S

Orlando Urban Trail
Gady Way Trail
Downtown Connector
Lake Underhill Path
Azalea Park Trail
Avalon Trail
Vista East Power Easement Trail

Orlando Int'l Airport

0 0.5 1 1.5 Miles

CITY OF ORLANDO
City Wide Trail Plan

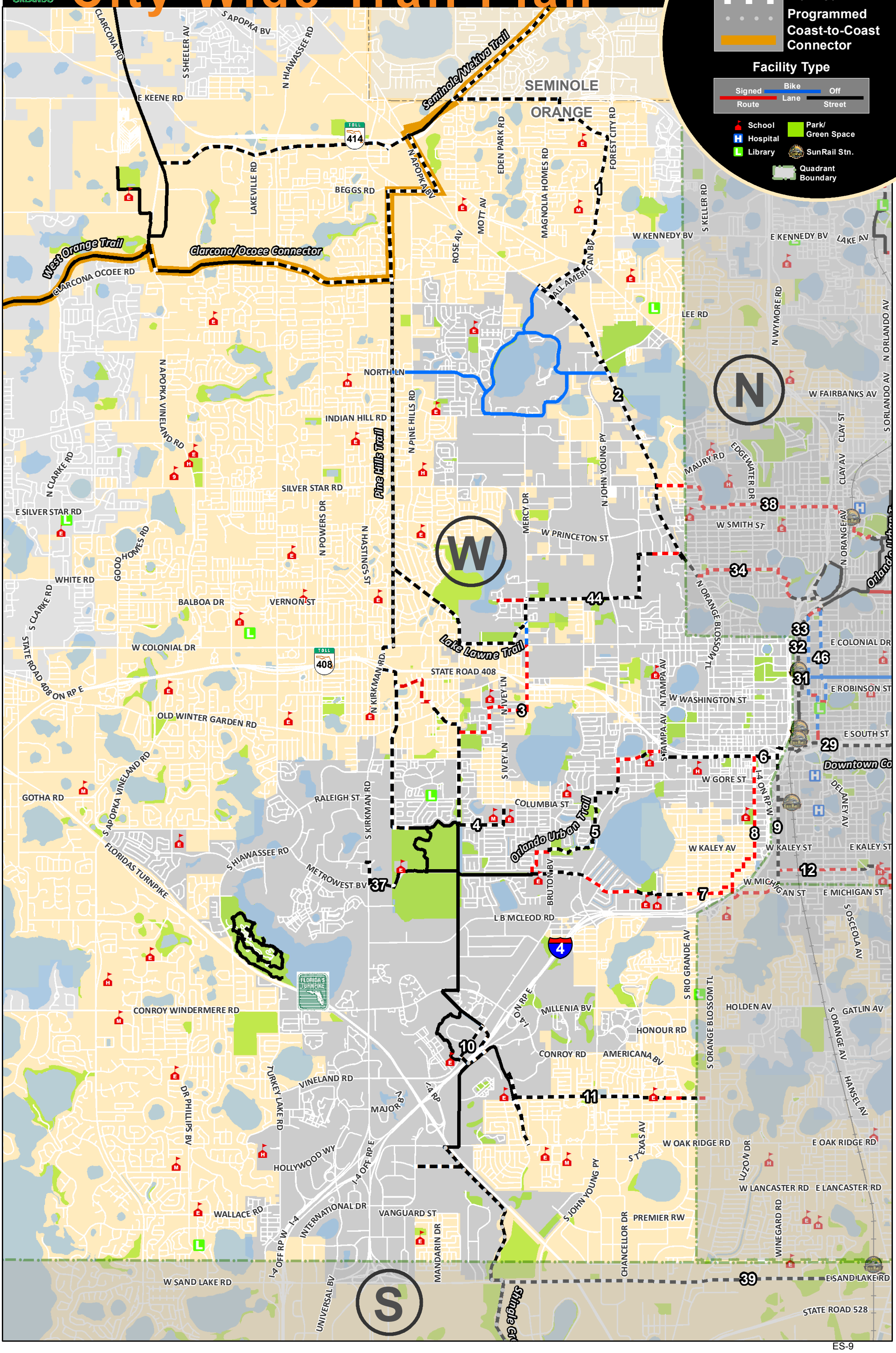
Figure ES-5
West Quadrant Map

Existing
Planned
Programmed
Coast-to-Coast Connector

Facility Type

Signed Route | Bike Lane | Off Street

School
Hospital
Library
Park/ Green Space
SunRail Stn.
Quadrant Boundary



CITY OF ORLANDO

City Wide Trail Plan

Figure ES-6
Downtown Map

Existing
Planned
Programmed
Coast-to-Coast Connector

Facility Type

Signed Route | Bike Lane | Off Street

School
Hospital
Library
Park/ Green Space
SunRail Stn.
Central Business District

W SMITH ST
W PRINCETON ST
W HARVARD ST
W YALE ST
STETSON ST
DARTMOUTH ST
DANN ST
YATES ST
GREELY ST
OAK ST
LAKE ADAIR BLVD
LATTA LN
DORMONT LN
E PRINCETON ST
E YALE ST
ALDEN RD
N ORANGE AV
ASHER LN
FERRIS
VIRGINIA DR
Orlando Urban Trail
LAKE HIGHLAND DR
WEBER ST
ALBA DR
N GARLAND AVE
N MAGNOLIA AV
W COLONIAL DR
E COLONIAL DR
ARLINGTON ST
N ORANGE BLOSSOM TL
N MILLS AV
W AMELIA ST
FEDERAL ST
OTEY PL
RUTH LN
STATE LN
E ROBINSON ST
POLK ST
W WASHINGTON ST
OSSIE ST
N ROSALIND AV
W PINE ST
E PINE ST
W SOUTH ST
E SOUTH ST
S ROSALIND AV
W ANDERSON ST
E ANDERSON ST
LONG ST
CARTER ST
S ORANGE AV
Downtown Connector
NOBLE PL
W GORE ST
E GORE ST
SLIGH BLVD
LUCERNE TER
DELANEY AV
S ORANGE BLOSSOM TL
18TH ST
I-4
I-4 ON RP E
I-4 ON RP W
I-4 OFF RP E
ATLANTA AVE
S DIVISION AVE
19TH ST
20TH ST
W KALEY AV
22ND ST
23RD ST
24TH ST
W KALEY ST
W ESTHER ST
W MURIEL ST
E MURIEL ST
E KALEY ST
E KALEY ST
OAKLEY ST
S MILLS AV
S RIO GRANDE AV

Study Purpose and Need

Since 1990 when Bicycling Magazine ranked Orlando as one of the worst cities in the nation for bicycling, the City of Orlando has made tremendous strides in providing safe facilities for bicyclists, building an interconnected network of facilities, and encouraging bicycle use for commuting and recreation. The first push for improvement resulted in the City being designated as a Bronze-level Bicycle Friendly Community (BFC) by the League of American Bicyclists in October 2004. However, the work to provide a balanced transportation system is not complete. The City has twice been renewed as a Bronze-level BFC, but seeks to achieve a higher designation level. The Orlando Primary Bicycle Routes Study will help to achieve that goal by setting the course for closing key gaps within the City's bicycle facility network, prioritizing future projects, and making sound investments to improve Orlando's bicycle infrastructure.

The City's proposed trail network compliments the state and regional efforts to "close the gaps" that currently exist in our trail networks, and provides additional opportunities for trips to be made on an expanded and interconnected trail network for both transportation and recreational purposes. The purpose of this study is to complete a comprehensive review of the City's proposed trail network and evaluate the feasibility of the network and primary bicycle routes. Key aspects of this feasibility study are to:

- confirm the proposed trail and route alignments as the most appropriate and beneficial for bicyclists and the community
- evaluate issues and opportunities
- determine available and needed right-of-way
- coordinate with City staff in various departments as well as staff from adjoining municipalities on proposed trails and routes
- develop cost estimates
- prioritize trail projects for implementation by the City or other agencies

Primary Bicycle Routes

For the purposes of this study, a "primary bicycle route" is defined as a route that supports family-friendly travel by bicycle; that is routes that are usable, safe and welcoming for bicyclists of all ages and abilities, from elementary school-aged children to seniors. Primary bicycle routes support bicycle travel for both recreational and transportation purposes.

Due to the physical separation from traffic, off-street trails are typically more family-friendly than on-street bicycle facilities, and therefore the focus of this study is primarily on trails. However, the study also incorporates on-street signed routes on low speed, low volume neighborhood streets; these low stress, quiet streets can provide easy and safe ways to make connections by bicycle. On-street facilities in more intimidating environments, such as conventional bike lanes or signed bicycle routes on more significant roadways (collectors and arterials), are generally not considered to be primary bicycle routes in this study.

While this study is not intended to serve as a City-wide bicycle master plan, it does provide the foundation to begin implementation of a network of interconnected family-friendly routes for bicycle travel that will serve as the spine of the City's bicycle network. The corridors included in this study are primarily the trail corridors and connectors that had been identified on the City-Wide Trail Plan map based on planning work that had occurred over a number of years. This study advances those corridors to the next step in the implementation process by assessing their feasibility.





Primary bicycle routes may be trails (top photo) or neighborhood street routes (bottom photo), but must be family-friendly.

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Preliminary Trail Network Assessment

The first task of the Orlando Primary Bicycle Routes Study was to complete a preliminary assessment of the existing and planned City of Orlando trail network in terms of the general coverage of the trail network and connectivity both within the City's boundaries and connections to neighboring municipalities. The intent of the assessment is to ensure, on a regional and "big picture" level, that the proposed trail network adequately connects key facilities, activity centers, and community destinations, allowing bicyclists of all ages and abilities to make trips for recreation or transportation purposes. This initial network review provides a foundation for discussions and coordination with stakeholders and agencies as we begin to focus on specific corridors and trail feasibility details. It also will identify any significant network gaps or additional areas or corridors for further evaluation.



The City's network of trails is growing, with the Orlando Urban Trail (OUT) serving as the spine of the network.

Summary of Findings

The City of Orlando is successfully planning a trails network to serve recreational trail user needs. The "Primary Routes" outlined in the City-Wide Trail Plan serve as the core network for a family-friendly, paved, multi-use trail network. The City has worked (and is continuing to work) with Orange County, the City of Winter Park, Florida Department of Transportation (FDOT), LYNX, MetroPlan Orlando, Orlando Utility Commission, Florida Power and Light, Duke Energy, SunRail, Greater Orlando Aviation Authority (GOAA) and private developers to develop a master trail plan to serve area residents and visitors. The following findings describe the coverage and connectivity of the proposed City trail network, both within the City boundaries and with adjacent municipalities and other nearby proposed projects:

- The planned Coast to Coast Connector Trail (C2C) has gained momentum over the last year and existing trail gaps along its proposed route will be closed as funding becomes available. FDOT has committed to funding the completion of this trail, and has allocated funds in its work program beginning in fiscal year 2015. When complete, this proposed 275-mile long trail that will link the Gulf Coast to the Atlantic Ocean through Central Florida will attract Florida residents and visitors from around the world, presenting a significant economic impact through increased tourism and new development opportunities. While the proposed Coast to Coast Connector does not pass directly through Orlando, it is important that the City's network provide linkages that allow users of this statewide trail to connect to Orlando as a trail destination to take advantage of all the City Beautiful has to offer. The closest regional trail segment that is part of the Coast to Coast Connector is the West Orange Trail. The City's network is proposed to be indirectly connected to the West Orange Trail via Orange County's Pine Hills Trail (which includes a short section within the City) and the Clarcona-Ocoee Trail.
- Many C2C trail users from outside the Metro-Orlando area may enter the region via Orlando International Airport (OIA). OIA is currently working to complete a bicycle master plan that will provide enhanced bicycle facilities and amenities for both employees and travelers. The City's network is planned to provide connections to OIA.
- Orange County recently updated their Trails Master Plan and many of the planned trails connect to the City of Orlando. The City of Orlando plan reflects Orange County's Trail Master Plan and the Primary Trails are planned for connection to the Orange County network.
- The City's network is well connected to the neighboring City of Winter Park, providing two primary connections: the Orlando Urban Trail (OUT) to Mead Garden, and the Lake Baldwin Trail and adjacent connection to the Cady Way Trail.
- The City has worked with SunRail and LYNX to incorporate the trail system into the existing and planned transit systems. The OUT plan exemplifies this coordination and connectivity as it provides direct connections or spurs to all four SunRail stations within the City.
- The City has identified the most critical trail corridors needed to serve existing and future trail users. Trail alignments generally take advantage of "low hanging fruit" such existing easements along canals, within utility corridors, and along roadways with sufficient right-of-way. Trail alignments generally connect to community destinations to the extent possible along the alignments shown on the City Trail Plan, however, direct connections are not provided to all schools, parks, and other nearby destinations.
- Some areas south of the City core and west of the Orlando International Airport appear to have few primary trail connections. The majority of this area is within unincorporated Orange County.

Preliminary Assessment Recommendations

Figure 1 illustrates existing gaps in the overall City trail network. It also shows how the area was split into four quadrants for completing the corridor assessments.

Based on the preliminary trail network assessment, the following general recommendations are offered to help guide the continued trail network development in the City:

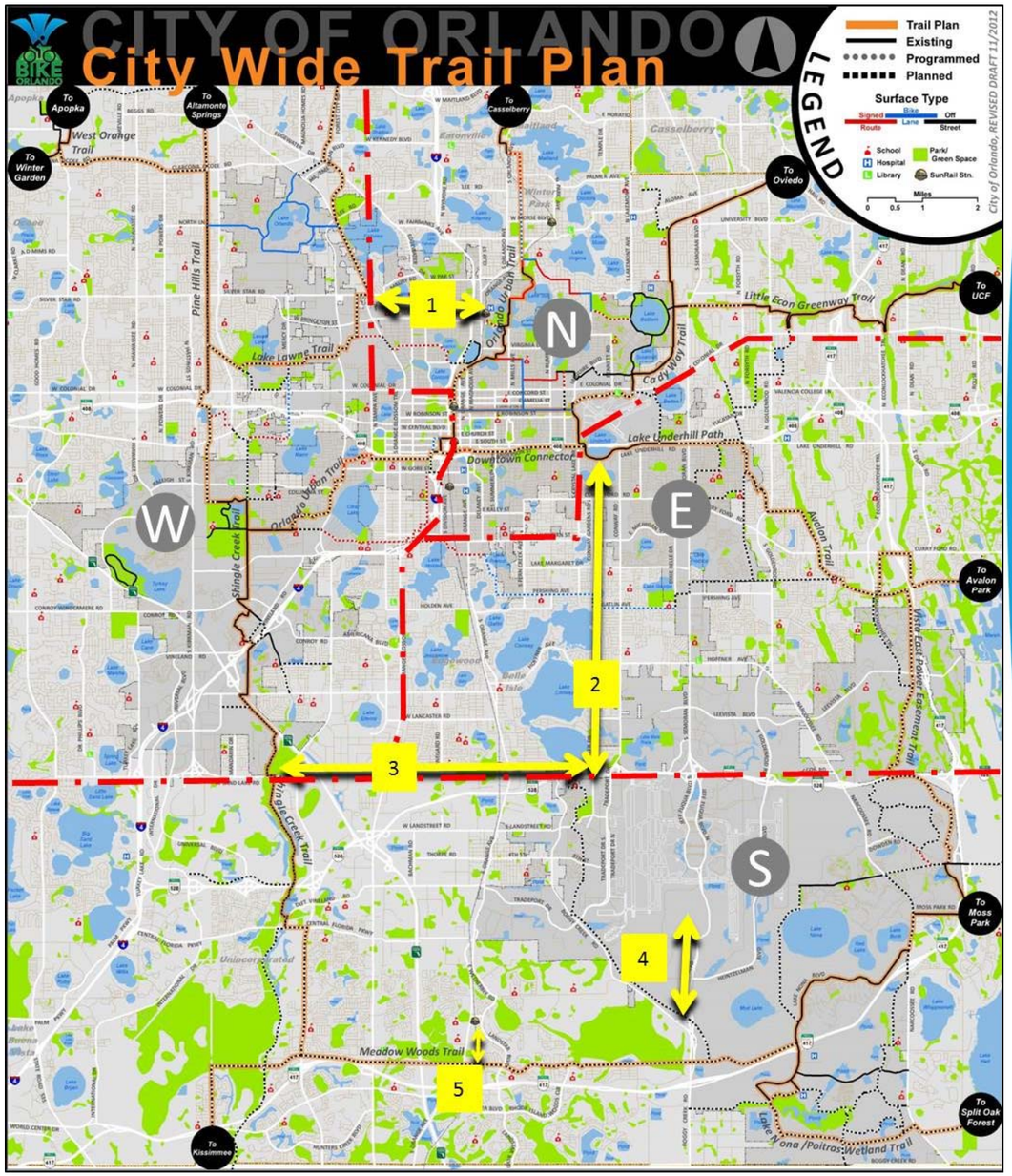
- The City should continue efforts to connect the Orlando Trail system to the Coast to Coast Connector. Multiple primary route connections to the Pine Hills Trail will allow more choices for trail users. Establishing a primary route between the Orlando Urban Trail and the Lake Lawne Trail would also help provide this additional connectivity to

the statewide trail (see #1 on Figure 1) via the Pine Hills Trail and the Clarcona-Ocoee Connector Trail.

- Continue to work with partnering agencies and private developers to develop and connect the primary trail system to the surrounding neighborhoods, schools, parks, SunRail stations and the many landmarks that form Orlando's identity. Work with MetroPlan Orlando to appropriately prioritize key connections within the City trail network, including raising the priority for segments that most effectively close gaps to regional and statewide connections.
- Continue to establish connections to SunRail stations and major transit hubs. Connections to locations such as park and ride lots, LYNX superstops, and/or SunRail shuttle locations should be developed as primary routes, if feasible, to enhance connectivity to and encourage use of the trail network by transit users and vice-versa.
- Continue to plan and develop trails that connect with adjacent municipalities such as Orange County, Winter Park, Edgewood, and Belle Isle.
- Coordinate with Orange County and review potential for new east-west and a north-south connectors west of OIA and south of downtown (see #2 and #3 on Figure 1). Coordinate on potential for north-south spur connector from Meadow Woods Trail to Meadow Woods SunRail station (see #5 on Figure 1).
- Review the areas within one-quarter mile of all trail corridors to assess connections to community destinations within that range. New trail connectors, where needed to provide indirect connections to primary routes, should be included in trail assessments, recommendations, and cost estimates.
- Coordinate with GOAA to ensure maximum connectivity of trails within OIA and Orlando Executive Airport (OEA), including a potential trail connecting the Meadow Woods Trail/Boggy Creek Trail to the proposed Intermodal Terminal Complex (and future South Terminal) at OIA (see #4 on Figure 1).
- Assess whether sufficient enhancements can be made to allow the proposed connections between the OUT and the Orlando Health/Amtrak SunRail Station to be included as a primary route. Similarly, assess whether the proposed east-west crosstown connector south of downtown between the County's Avalon Trail and the City's Shingle Creek Trail can be enhanced as a primary route.
- Create GIS locations for the proposed City Bike Share program for inclusion in future planning efforts.

Appendix A contains the full preliminary trail network assessment memo.

Figure 1 Corridor Assessment Quadrants and Existing Trail Network Gaps



Corridor Prioritization

An early task of the study was to develop a set of trail corridor prioritization criteria, which would be used for two purposes:

1. To establish the overall City-wide ranking for primary bicycle routes.
2. To set preliminary screening levels (high, medium, low) for the assessment of various corridors. High-priority corridors would then warrant a more detailed evaluation, and low-priority corridors would have a more general evaluation.

The priority ranking established for the various study corridors provides general guidance and is based on the criteria scoring completed at this point in time. However, the order in which projects are implemented is flexible based upon opportunities such as funding and partnerships.

Criteria and Scoring Methodology

Several sources listing ranking criteria for trail development were reviewed to help develop a preferred list of criteria for use in this project, including the following:

- City of Orlando Sidewalk Prioritization Method
- Orange County Trails Master Plan Corridor Evaluation Scoring
- State of Florida Greenways and Trails System (FGTS) Priorities
- State of New York Recreational Trails Program Ranking Criteria
- City of Philadelphia Trail Master Plan Prioritization Factors and Criteria

After consideration of the prioritization criteria from the sources listed above, local Orlando factors and considerations, the preliminary trail assessment, and input from key stakeholders and the public, the prioritization criteria and scoring shown in Table 1 were recommended for use.

The methodology includes seven categories:

1. **Connects to Statewide Trail Corridors** – an all-or-nothing score if the facility would link to another trail that connects directly to the proposed Coast to Coast Connector.
2. **Connects Directly to Other Local/Regional Trails** – graduated scoring based on connecting directly to the City's spine trail, the OUT or connecting directly to 1 or more existing or planned trails.
3. **Connects to Significant/Iconic Orlando Landmarks/Areas** – graduated scoring based proximity to iconic Orlando landmarks. Landmarks include the four City venues (Amway Center, Dr. Phillips Performing Arts Center, Citrus Bowl, Orlando City Soccer Stadium); eight Main Street Districts; Lake Eola Park; Leu Gardens; Loch Haven Park (and adjacent cultural venues); I-Drive MSTU; Universal Orlando; and three major shopping areas (Mall of Millenia, Fashion Square Mall, and Prime Outlets/Festival Bay Mall).
4. **Connects to Other Area Transit / Transportation Systems** – graduated scoring based on direct connection or close proximity to a SunRail station, LYNX Superstop, Park-n-Ride Lot, or LYNX bus routes or proposed BRT corridors.
5. **Connects to Significant City Destinations** – graduated scoring for direct connection or close proximity to various destinations including public schools; colleges and private schools; parks (minimum 2 acres); libraries; senior/community/recreation centers; and major employers/employment areas (includes Orlando CBD, Florida Hospital, Orlando Health, Medical City, and Orlando International Airport, and Orlando Executive Airport).
6. **Total Population and Employment Density** – graduated scoring based on the total population and employment density within ½ mile of the proposed trail corridor.
7. **Removes Barriers** – provides two levels of scoring if a trail corridor would provide a connection across one or more significant barriers for bicycling and/or walking. Barriers include limited access highways (e.g., I-4, SR 408), significant natural features (lakes, canals, etc.), and principal six-lane arterials with documented pedestrian/bicycle crash history (e.g., Orange Blossom Trail).

Results

Table 2 shows the results of the corridor prioritization, including the corridor segment ID number, name/description, type of facility, trail length, and the detailed evaluation scores for each of the seven categories. The table also notes which level of assessment each corridor was assigned based on the results of the analysis. Specific notes about the study screening level include the following:

- The **High** screening level is a detailed corridor evaluation of the highest scoring trails corridors, which includes detailed field review of the feasibility of the trail to ground truth initial office-level review. A total of six corridors were screened at the High level.
- The **Medium** screening level is a moderate corridor evaluation of trails and high-scoring on-street routes. A determination was made early in the project that on-street routes were not going to be eligible for a High level screening. Medium screenings include office-level reviews and windshield field reviews, with concepts being developed in less detail compared to the High screening level. A total of six corridors were screened at the Medium level.
- The **Low** screening level included almost exclusively office-level reviews of potential corridors and was used for the balance of the corridors that were not excluded from review. A total of 13 corridors were screened at the Low level.
- A total of 19 identified and ranked corridors were **excluded** from further evaluation because they were already in design or are to be developed by others (such as Orange County, GOAA, or private developers). Many of these corridors are entirely or nearly entirely outside the City boundaries, but are included on the City-wide map to show potential connections.

The initial trail prioritization memo and maps showing the screening levels by corridor are included in Appendix B.

Table 1 Corridor Prioritization Criteria and Scoring

	Category	Criteria	Points	Weight
1	**Connects to Statewide Trail Corridors**	• Connects to the planned Coast to Coast (C2C) Connector Trail via the West Orange Trail/Pine Hills Trail	100	10%
2	**Connects Directly to Other Local/Regional Trails (existing or planned)**	• Direct connection to the Orlando Urban Trail (OUT) • No direct connection to OUT but direct connection to more than 2 other trails • No direct connection to OUT, but direct connection to 2 other trails • No direct connection to OUT, but direct connection to 1 other trail	100 60 40 20	20%
3	**Connects to Significant/Iconic Orlando Landmarks/ Areas**	• Direct connection to 2 or more significant/iconic landmarks/areas • Direct connection to 1 significant/iconic landmark/area • Indirect connection within 0.25 mile to 2 or more significant/iconic landmarks/areas • Indirect connection within 0.25 mile to 1 significant/iconic landmark/area • Indirect connection within 0.5 mile to 1 or more significant/iconic landmarks/areas	100 80 60 40 20	20%
4	**Connects to Other Area Transit/ Transportation Systems**	• Direct connection to SunRail station, LYNX Superstop, or Park-n-Ride Lot • Indirect connection within 0.25 mile to SunRail station, LYNX Superstop, or Park-n-Ride Lot • Indirect connection within 0.5 mile to SunRail station, LYNX Superstop, or Park-n-Ride Lot • Indirect connection within 1.0 mile to SunRail station, LYNX Superstop, or Park-n-Ride Lot • Connects to or crosses two or more LYNX bus routes and/or proposed BRT corridors	100 80 60 40 20	10%
5	**Connects to Significant City Destinations**	• Direct connection to 2 or more significant destinations • Direct connection to 1 significant destination • Indirect connection within 0.25 mile to 2 or more significant destinations • Indirect connection within 0.25 mile to 1 significant destination • Indirect connection within 0.5 mile to 1 or more significant destinations	100 80 60 40 20	10%
6	**Total Population and Employment within ½ mile of trail corridor, per mile of trail length**	• Total population + employment within 0.5 mile of trail corridor, per mi of trail length >= 10,000 • Total population + employment within 0.5 mile of trail corridor, per mi of trail length = 5,000 - 9,999 • Total population + employment within 0.5 mile of trail corridor, per mi of trail length = 3,000 - 4,999 • Total population + employment within 0.5 mile of trail corridor, per mi of trail length = 2,000 - 2,999 • Total population + employment within 0.5 mile of trail corridor, per mi of trail length < 2,000	100 80 60 40 20	20%
7	**Removes Barriers**	• Provides a connection across 2 or more significant barriers for bicycling and/or walking • Provides a connection across 1 significant barrier for bicycling and/or walking	100 50	10%
	Total		**100**	**100%**

Table 2 Corridor Prioritization Results

Priority Rank	City Quadrant	Segment ID #	Name/Description	Facility Type	Study Screening Level	Comment	Trail Length (mi)	Statewide Trail Connection Score	Local/ Regional Trail Connection Score	Connection to Significant Orlando Landmarks Score	Connection to Transit Areas/Trans Systems Score	Connection to Significant City Destinations Score	Total Population and Employment Served Score (within 1/2 mile, year 2005) per mile of Trail Length	Improves Safety or Removes Barriers Score	Total Weighted Prioritization Score
1	N	9	Downtown Cental Corridor, Downtown to Amtrak/ORHS Sunrail	Trail	High		2.5	0	100	100	100	60	100	0	**76**
2	N	38	North College Park Connector, OBT/Silver Star to FL Hospital Sunrail	On-street	Med	Maximum level of study for on-street route is medium	3.1	0	100	100	80	60	80	0	**70**
3	W	6	OUT West Segment 1, Tampa Ave to Downtown	Trail	High		1.1	0	100	60	60	60	100	50	**69**
4	N	29	Downtown Connector	Trail	High		2.4	0	100	60	60	60	100	0	**64**
5	N	31	Gertrudes Walk, Amelia to Washington	Trail	---	LYNX design project	0.5	0	100	40	100	60	100	0	**64**
6	N	32	OUT, SR 50 Bridge	Trail	---	City design-build project	0.4	0	100	20	80	60	100	50	**63**
7	N	35	Cady Way Fashion Square Connection	Trail	---	Trail completion is development condition	0.2	0	100	80	0	60	100	0	**62**
8	E	17	Lake Underhill Path - SR 436 Bridge	Trail	Low	Feasibility study for SR 436 bridge complete	0.8	0	60	80	20	60	100	50	**61**
9	W	5	OUT West Segment 2,Shingle Creek Trail Spur to Tampa Ave	Trail	High		2.9	0	100	60	20	100	80	0	**60**
10	N	33	OUT, SR 50 Bridge to Dinky Line	Trail	High	Short but critical connector	0.4	0	100	40	40	60	100	0	**58**
11	N	46	Downtown Orlando Urban Bikeways	On-Street	Med		2.8	0	60	60	80	60	100	0	**58**
12	N	34	North College Park Connector, Lake Lawne Tr to OUT	On-street	Med		2.0	0	60	80	40	60	100	0	**58**
13	E	12	Conway East-West On-Street Connector, I-4/Michigan to Avalon Trail	On-Street	Low	On-street route, majority outside City boundaries	6.4	0	60	100	40	60	80	0	**58**
14	W	8	Parramore Connector Route, OUT to 28th St	On-street	Med		1.7	0	60	60	60	60	100	0	**56**
15	N	30	Fairgreen Street Trail	Trail	---	To be incorporated as part of proposed roadway	1.3	0	100	60	0	80	80	0	**56**
16	W	1	N-S Trail, OBT/All American to Maitland Blvd	Trail	---	Outside City boundaries	2.9	100	60	0	80	60	80	0	**52**
17	E	13	Avalon Trail, E of SR 436	Trail	---	Included in Orange Co Trails Master Plan	16.3	0	60	80	20	80	20	50	**47**
18	W	10	Vineland Road Trail	Trail	Low		0.4	0	60	40	20	40	100	0	**46**
19	W	7	Catalina - Holden Heights Connector, Shingle Creek Tr Spur to Division	On-street	Med		3.1	0	60	20	20	100	80	0	**44**
20	W	44	Lake Lawne Trail	Trail	Med		3.9	100	60	0	20	80	60	0	**44**
21	E	18	Engelwood Trail	Trail	High		2.6	0	40	40	0	100	80	0	**42**
22	W	11	Millenia Trail Connectors	Trail	Low	Majority outside City boundaries	3.0	0	20	40	20	80	100	0	**42**
23	E	36	Andes Ave Trail, Lake Underhill Path to Fairgreen St	Trail	---	To be developed by GOAA	1.5	0	60	20	0	80	60	50	**41**
24	E	16	Azalea Park Trail, Lake Underhill Path to Goldenrod Rd	Trail	---	Included in Orange Co Trails Master Plan	2.0	0	60	20	20	60	80	0	**40**
25	E	42	Airport North On-Street Connector, Avalon Tr to Heintzelman Blvd	Trail	Low		5.3	0	60	0	20	80	60	50	**39**

Table 2 Corridor Prioritization Results (continued)

Priority Rank	City Quadrant	Segment ID #	Name/Description	Facility Type	Study Screening Level	Comment	Trail Length (mi)	Statewide Trail Connection Score	Local/ Regional Trail Connection Score	Connection to Significant Orlando Landmarks Score	Connection to Transit Areas/Trans Systems Score	Connection to Significant City Destinations Score	Total Population and Employment Served Score (within 1/2 mile, year 2005) per mile of Trail Length	Improves Safety or Removes Barriers Score	Total Weighted Prioritization Score
26	W	2	OBT Trail, Lake Lawne Tr to Rosemont	Trail	Low		3.5	0	60	0	20	80	80	0	**38**
27	S	39	E-W Corridor (Sand Lake Rd), Boggy Creek Rd to Shingle Creek Tr	Trail	---	Almost entirely outside City boundaries	6.9	0	60	0	80	60	60	0	**38**
28	W	3	Mercy Drive Connector, Pres. Barack Obama Pkwy to Lake Lawne Tr	On-street	Low		2.0	0	60	0	20	60	80	0	**36**
29	E	19	Azalea Park Trail, Power Easement to Avalon Tr	Trail	---	Included in Orange Co Trails Master Plan	2.0	0	60	0	0	80	80	0	**36**
30	S	41	OIA Intermodal Terminal Connector Trail	Trail	---	To be developed by GOAA	3.9	0	40	0	100	80	20	50	**35**
31	E	40	Conway N-S On-Street Connector, Downtown Conn to Sand Lake Rd	On-street	Low		7.5	0	60	0	20	60	60	0	**32**
32	W	4	Carver Shores Trail	Trail	Low		0.7	0	20	0	0	100	80	0	**30**
33	S	28	Southport Trail, Boggy Creek Rd to Jetport Dr	Trail	Low		3.5	0	60	0	0	100	40	0	**30**
34	W	37	Valencia - Shingle Creek Trail Connector	Trail	Low		0.6	0	20	0	20	80	80	0	**30**
35	S	25	Dowden Rd-Lake Nona Connector Trail	Trail	---	To be developed by GOAA/Lake Nona	2.8	0	60	0	0	80	20	50	**29**
36	S	23-24	Narcoossee Rd Trail, Lake Nona Gas Easement to Lake Nona HS	Trail	Low		3.4	0	60	0	0	80	40	0	**28**
37	E	14-15	Vista East Trail, Avalon Tr to SR 528	Trail	Low		3.7	0	40	0	0	40	40	50	**25**
38	S	45	Boggy Creek Rd Trail, Tradeport Dr to Meadow Woods Tr	Trail	---	To be developed by GOAA	3.9	0	60	0	0	80	20	0	**24**
39	S	43	East Airfield Perimeter Trail	Trail	---	To be developed by GOAA	3.8	0	60	0	0	80	20	0	**24**
40	S	22	Lake Nona Gas Easement Trail, E of Narcoossee Rd	Trail	---	30% design plans already developed	1.2	0	60	0	0	20	40	0	**22**
41	S	27	Meadow Woods Trail, Boggy Creek Rd to Lake Nona Blvd	Trail	---	Included in Orange Co Trails Master Plan	2.1	0	60	0	0	60	20	0	**22**
42	S	21	Randall Johnson Trail Loop, SR 528 to Dowden Rd	Trail	---	Implement trails via Bal Bay / Randal Park master plans	4.6	0	60	0	0	20	20	0	**18**
43	S	20	Vista East Trail, SR 528 to Dowden Rd	Trail	---	Implement trails via Bal Bay / Randal Park master plans	2.4	0	60	0	0	0	20	0	**16**
44	S	26	Split Oak Forest Trail, E of Narcoossee Rd	Trail	---	Outside City boundaries	4.4	0	20	0	0	0	20	0	**8**

Stakeholder Engagement and Coordination

The study included several opportunities to engage with and get feedback from key stakeholders and members of the public regarding primary bicycle routes and trails, prioritization of corridors, and other information. These opportunities included the following:

- Agency kickoff meeting
- Public meeting
- Interactive online engagement via Mindmixer
- Quadrant workshops with City staff

Agency Kickoff Meeting

An agency kickoff meeting was held on February 18, 2014 to introduce the study to key agency staff and stakeholders, report on initial findings and proposed prioritization, and get initial feedback. The meeting was attended by 15 agency staff members, representing 9 different agencies. Notes and comments from the meeting are provided in Appendix C.

Public Meeting

On the same evening as the agency kickoff meeting, a public meeting was held at Loch Haven Center using an open house format and including a short overview presentation of the study and proposed corridor prioritization. Approximately 40 members of the public and agency staff attended the meeting, about one-quarter of whom rode a bicycle to the meeting. Notes and comments from the public meeting are also provided in Appendix C.





Stakeholder engagement through an agency kickoff meeting (top) and public meeting (bottom).

Interactive Online Engagement

The Engage Orlando website uses the online platform Mindmixer to seek feedback from the public on numerous topics and projects. This interactive online site was used as part of the Primary Bicycle Routes Study to get online community feedback on several big-picture topics relating to the City's trail and bicycle network. A series of questions was asked over the course of the study, including the following:

- What is your favorite bike trail?
- Where would you like to see future trails constructed?
- How often do you use a bike trail?
- What do you do on the trails?
- As a trail user would you like to see more public art along the trail network?

As of the end of August 2014, the Engage Orlando website questions related to the study had accumulated:

- 1,289 views
- 371 interactions
- 30 responses
- 39 follow-up comments

Common themes of online feedback included:

- Desire for a bicycle network that includes a dedicated and interconnected network of trails and roadways
- Use of lower volume roadways to provide key connections and bicycle-friendly corridors
- Better education and signage for motorists
- The use of colored bicycle lanes

Public feedback provided via the Engage Orlando website is included in Appendix C.

Quadrant Workshops

A series of four one-day workshops was held with City staff and other key stakeholders such as FDOT and MetroPlan Orlando staff, each focused on a specific quadrant or area. Workshops began with the review of corridors in the office, and moved out into the field for reviews of key areas/locations along high and medium screened corridors. These workshops facilitated corridor and project-specific discussions on alignment options, issues, constraints, and opportunities, as well as knowledge transfer related to historical and current projects and information. The information gleaned from the workshops and field reviews helped greatly in shaping the corridor concepts.





Field reviews were conducted with City staff to identify trail and corridor specific issues, constraints and opportunities (top and bottom).

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Bicycle Trail / Route Concept Summaries

A corridor concept summary was prepared for each of the 25 prioritized corridors listed previously in Table 2 with an assigned screening level of high, medium, or low. The concept summary sheets are intended to be usable as stand-alone documents and provide maps, photos, and concise information related to issues and opportunities specific to that trail concept. The differences in the content provided for high, medium, and low screened corridors are summarized in Table 3.

Key considerations for corridor feasibility review and preparation of trail / route concept summaries are presented in the following sections.

Trail Width Standards

The minimum recommended width for any trail being considered for development by the City of Orlando is 10 feet. This is consistent with national guidance including the American Association of State Highway Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities, FDOT's Plans Preparation Manual, and the Florida Greenbook. However, a wider trail of at least 12 feet is more desirable as a minimum, particularly along portions of any trail anticipated to have significant usage such as on the Orlando Urban Trail.

Preferred and Alternative Routes

Where multiple route alignments were reviewed for feasibility, the alignments are shown on the map(s) as preferred and alternative routes. Alternative routes might be used in the following situations:

- Further evaluation or coordination related to the preferred route identifies implementation challenges that may be difficult to overcome. In this case, the alternative route may offer a route choice with fewer implementation obstacles.
- As a near-term solution to providing a connected bicycle route prior to the ultimate implementation of the preferred route. This may again be the case if the preferred route has implementation challenges or if the alternative route can quickly and cost effectively be implemented while waiting for funding to be obtained for the preferred route.
- In conjunction with the preferred route to create a loop trail or route, connect additional destinations, or simply to provide multiple routing options.

Table 3 Concept Sheet Content Summary

Content	High	Medium	Low
Number of Pages	3+	2	1
General Information: Description, Implementation, Cost, Priority	✓	✓	✓
General Issues and Opportunities		✓	✓
Detailed Issues and Opportunities: Route/Typical Section, Connections, Drainage/Structures, Environmental, Utilities, Safety & Security, Right-of-Way, Constructability, Traffic Impacts, User Experience	✓		
Overview Map	✓	✓	✓
Detailed Map(s)	✓		
Photos	✓	✓	

Environmental Assessment

Corridors with a high screening level included a preliminary evaluation of proposed trail alignments for impacts to wetlands, surface waters, land use and habitats, contamination sites, public lands, and wildlife occurrences, with mitigation measures and likely costs documented. This information is summarized in the Environmental section of the concept summaries, and provides insight as to the expected environmental impacts associated with individual projects, which allows identification of potential fatal flaws in trail alignments and development of more accurate trail construction costs.

Right-of-Way Evaluation

Corridor concepts prepared as part of this study were generally established with a specific goal to minimize or negate the need for right-of-way acquisition to minimize potential project costs and implementation challenges. A qualitative assessment of right-of-way was completed during the concept development stage based on information obtained from the Orange County Property Appraiser's website and online mapping tool. Specific locations proposed to make use of publicly-owned land were noted on the concept summaries, as were potential locations with likely right-of-way impacts to privately-owned parcels.

Cost Estimates

Preliminary construction and design costs were estimated for each corridor evaluated. Construction costs are based on an initial general cost per mile for a 12-foot multi-use trail, with additional components added as needed. The additional components include items such as signage and marking; drainage elements such as drainage inlet modifications; traffic elements such as signals and median islands; and other elements such as bridge structures, trailheads/rest areas, utility relocation, and curb work.

All cost estimates also include the following:

- Mobilization, 10% of construction subtotal
- Maintenance of traffic (MOT), 3 – 8% of construction subtotal depending on specific project elements and location
- Landscaping, typically 5% of construction subtotal
- Contingency, 25% of total construction cost after mobilization, MOT, and landscaping percentages added
- Design and construction engineering inspection (CEI), 15% of total construction cost including contingency

The preliminary cost estimates will help to inform the budgeting and funding needs for completing individual trail projects and the Citywide trail network as a whole.

Trails have been broken into implementable segments based on typical grants and available funding amounts, with total segment costs typically below $4 million.

The concept summaries typically include the total estimated project cost (including design and CEI) for the preferred route, although the costs for some major alternative routes are also explicitly noted. Appendix D provides the detailed cost estimates.

Description

The OBT Trail shown in Figure 2-1 is a potential trail opportunity in the northwest portion of the City that would provide a 3.5-mile connection between College Park and the Rosemont neighborhood, Trotters Park, and Lake Fairview Park. The corridor would run alongside Orange Blossom Trail (OBT) and provide a connection opportunity to another potential trail corridor along the Wekiwa Canal. The trail would significantly enhance bicycle and pedestrian access along this section of OBT as existing sidewalks are generally located at the back of curb and are fragmented. Other than the paved shoulders included in the rural typical section along the northern portion of the corridor, no bicycle accommodations are currently provided.

The preferred trail alignment is on the east side of OBT between New Hampshire Street and John Young Parkway/Lee Road due to the fewer driveways and cross streets, and direct access to Lake Fairview and Trotters Parks. At John Young Parkway/Lee Road, the trail would cross to continue north on the west side of the road, which would allow connections to the Rosemont neighborhood.

Portions of the OBT Trail corridor are within the City, while others are within Orange County, while the road is a state road. Therefore, coordination would be required with the County and FDOT to move the project forward. However, the corridor is not currently part of the County's Trails Master Plan and therefore may be considered a lower priority. Nevertheless, it is recommended that opportunities be pursued as they arise along this corridor to implement the trail connection.

Implementation

- Look for opportunities to develop the trail over time as part of other transportation improvements along the OBT corridor. Coordinate with FDOT to include trail-related improvements in capacity or maintenance projects for OBT.
- Coordinate the planning, design, and implementation of the trail and connecting Wekiwa Canal Trail with Orange County.

Cost

$3,410,000

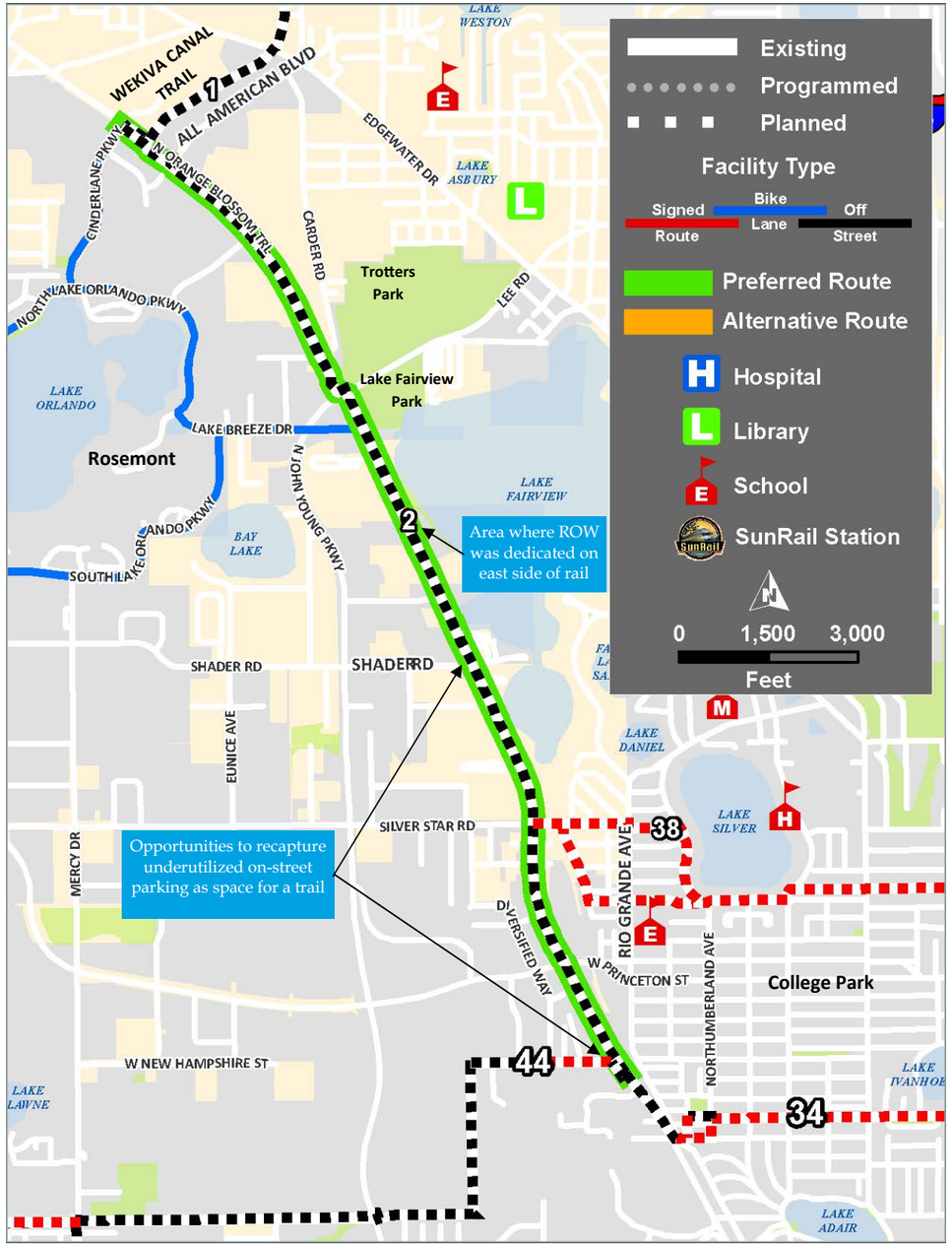
Opportunities:

- There is potential to develop this trail corridor over time, particularly as OBT is improved or maintained. A trail would help to improve bicycle and pedestrian access along the corridor since the existing sidewalks are fragmented and there are no existing bicycle accommodations.
- The trail would connect to existing bike lanes in Rosemont on Cinderlane Parkway and Lake Breeze Drive.
- There is the potential to connect the OBT Trail to another potential trail corridor alongside the Wekiwa Canal that runs parallel to (just north of) All American Boulevard and (just west of) SR 434/Forest City Road, connecting between OBT and Maitland Boulevard at Lake Lotus Park. This would require coordination with Orange County, as much of the canal alignment is outside the City boundaries but the alignment is not part of the County's current Trails Master Plan.
- Sections of OBT south of Shader Road include on-street parking which is vastly underutilized. The area currently striped for parking could potentially be recaptured for trail use by shifting the curb line in.

Issues:

- The corridor has a high number of intersections and driveways, each representing a potential trail conflict point. Also, due to the adjacent land uses being primarily industrial in nature, there is a higher volume of truck traffic on the corridor. If a trail is pursued along the corridor, care would need to be taken to mitigate these potential conflicts to the degree possible during design. Improved access management would be desirable as the corridor is improved.
- There are fewer intersections and driveways on the east side of OBT between Silver Star Road and Lee Road, so it is preferred to have the trail on the east side. However, there is very limited right-of-way available on the east side of the road due to the adjacent CSX rail line, which may preclude the trail from being located on the east side of OBT in this section. However as properties redevelop north of Silver Star Road, additional right-of-way can continue to be dedicated east of the rail line. As an example, a multi-story condominium project has already dedicated right-of-way for a trail east of the rail line. This would require a location for the trail to cross the rail line which can be challenging.

Figure 2-1: OBT Trail Overview Map



ID # 3| Mercy Drive Connector

Preliminary Screening Level: LOW

Description

The Mercy Drive Connector, as shown in Figure 3-1, is a proposed 2-mile on-street route that would connect between the proposed northern extension of President Barack Obama Parkway and the proposed Lake Lawne Trail at the Mercy Drive/Fairvilla Road intersection. The proposed northern extension of President Barack Obama Parkway would extend the existing Shingle Creek Trail north to Old Winter Garden Road. The Mercy Drive connector would utilize primarily residential streets and low volume collectors to travel east and north from President Barack Obama Parkway to connect with the proposed Lake Lawne Trail. The route would provide connections to Ivey Lane Elementary School and the Ivey Lane Park and Neighborhood Center.

The route is proposed to connect from President Barack Obama Parkway to Oliva Street adjacent to Malibu Groves Park through the proposed new development of the Mission Hills Estates property. From Oliva Street, the route would run north on Fanfair Avenue, and east on Edgemoor Street to Ivey Lane. The existing signal at Ivey Lane and Edgemoor Street can be used to cross Ivey Lane where the route turns south for half a block before continuing east on Cynthia Street. The route then turns north on Ortman Drive, which becomes Mercy Drive north of Old Winter Garden Road. Mercy Drive has existing on-street bicycle lanes north of SR 50 / Colonial Drive. At Fairvilla Road, bicyclists would have the option to continue riding in the existing on-street bicycle lanes, or transitioning to the proposed off-street Lake Lawne Trail, which would continue north to WD Judge Road.

Implementation

- Most of the project could be implemented with a series of route/wayfinding signs and pavement markings. Shared lane markings should be provided at minimum on Ortman Drive and Mercy Drive south of SR 50.
- Coordinate with Mission Hills Estates on roadway connection between President Barack Obama Parkway and Oliva Street.

Cost

$670,000

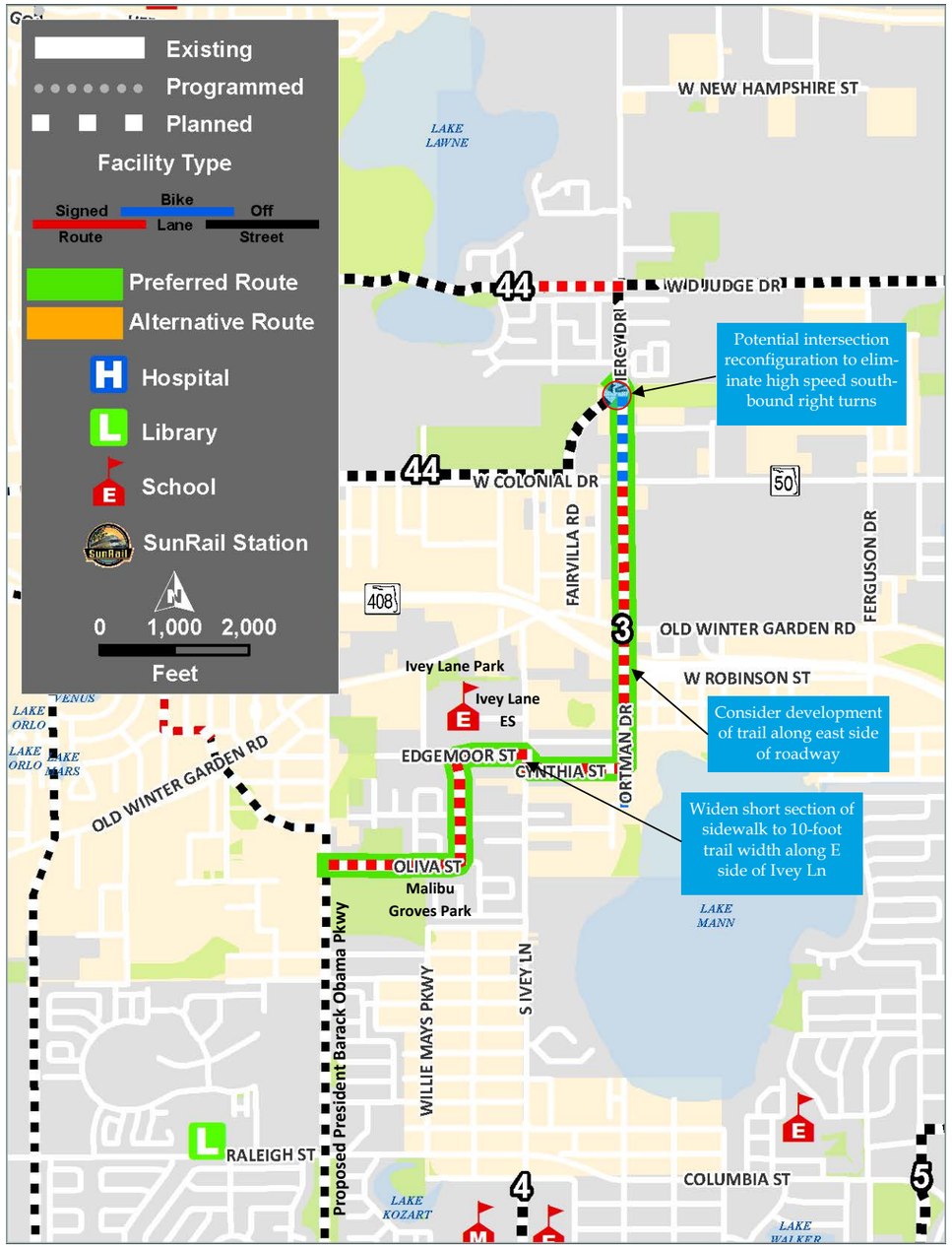
Opportunities:

- Many of the streets in the Malibu Groves area, including Fanfair Avenue, Edgemoor Street, Cynthia Street, and Ortman Drive, have traffic calming which helps to ensure slower motor vehicle speeds and a more bicycle-friendly environment.
- Widening the existing sidewalk to a 10-foot trail width should be considered along the east side of Ivey Lane between Cynthia Street and Edgemoor Street, which would allow users to cross Ivey Lane at the Edgemoor Street signal without having to ride in the street on the busier Ivey Lane. The sidewalk widening could be accomplished by eliminating the existing grass landscape strip.
- Although only shown as a signed route, the majority of the route along Ortman Drive and Mercy Drive appears to have adequate available right-of-way on the east side of the roadway to complete a minimum 10-foot wide trail. A portion of this section already has a 5-foot sidewalk which may could be widened. Further consideration should be given to developing a trail along this section of the route.

Issues:

- The existing Mercy Drive / Fairvilla Road intersection is configured to facilitate high speed southbound right turns from Mercy Drive to Fairvilla Road. To provide a more pedestrian and bicycle friendly crossing point through slower vehicle speeds, consideration should be given to reconfiguring the intersection to eliminate the high speed, low angle movement by bringing Fairvilla Road to more of a 90 degree angle with Mercy Drive.

Figure 3-1: Mercy Drive Connector Overview Map



Description

The Carver Shores Trail, as shown in Figure 4-1, is proposed to provide a 0.7-mile trail spur connection between the regional Shingle Creek Trail and two schools, Carver Middle School and Eccelston Elementary School. The northern portion of the Shingle Creek Trail runs along the west side of President Barack Obama Parkway and serves as the primary north-south trail in the western portion of the City. A series of canals in the area are maintained by Orange County (and flow into Lake Fran and then outfall into Shingle Creek). Carver Middle School and Eccleston Elementary School are located in the area south of the Raleigh Street and Ivey Lane Intersection and east of the proposed northern extension of President Barack Obama Parkway. The rear of the schools are just north of an east-west canal, where a trail spur from the Shingle Creek Trail is proposed to be connected. The surrounding neighborhoods also access the schools through sidewalk connections from the south. Eccleston Elementary can be accessed through a pedestrian gate at S. Ivey Lane and Carver Middle can be accessed from Willie Mays Parkway.

The canal turns north, running between the two schools and ends at Columbia Street and S. Ivey Lane. Most of the canal right-of-way is under the ownership of Orange County Board of County Commissioners, although the northern portion of the canal located south of Columbia Street is owned by the Orange County School Board. However, this section of canal frontage is fenced off from the school campus so it may present less of a school security concern.

Implementation

- Coordinate the trail connectivity and use of property with Orange County Public Schools (OCPS).
- Coordinate the use of the canal corridor with Orange County Public Works to discuss maintenance and access issues.
- Soil borings should be completed early in the process to determine if the banks of the canals need any additional stabilization which could greatly raise the cost of the completion of the trail.

Cost

$660,000

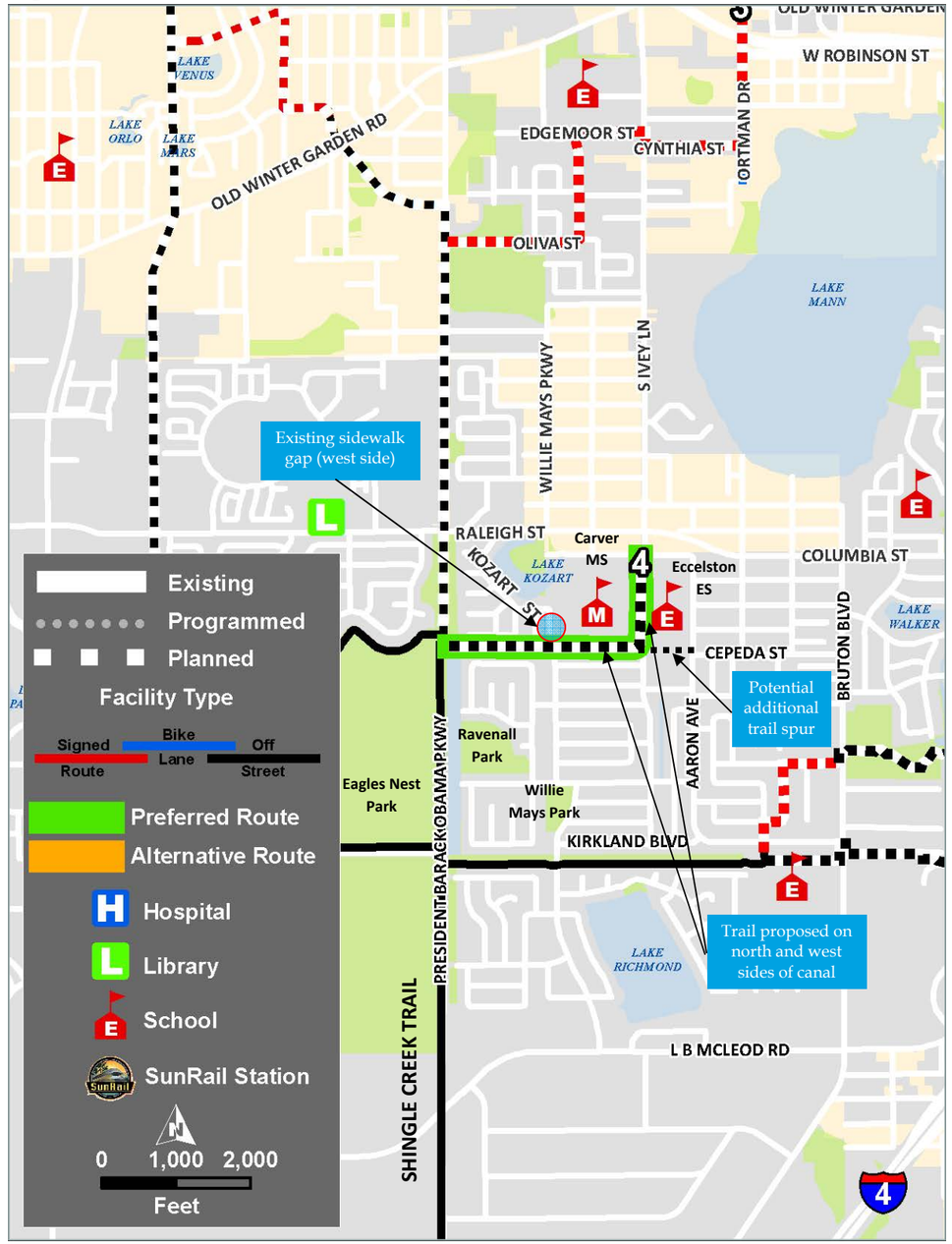
Opportunities:

- The canal that runs east from the right-of-way for President Barack Obama Parkway then turns north to Columbia Street has an adequate width on the top of the canal bank to provide a 12-foot wide trail.
- The right-of-way for Cepeda Street between S. Ivey Lane and Aaron Avenue just south of Eccleston Elementary still exists and an additional trail spur could be provided to connect to Cepeda Street at Aaron Avenue. The combination of this additional trail spur corridor and the existing Cepeda Street corridor to Bruton Boulevard would create one of the few direct east west routes through the neighborhood. This connection would require a prefabricated pedestrian bridge to be provided over the canal near the location where it turns to the north.
- Carver Middle School is proposed renovation by OCPS. As such, it is an ideal time to coordinate regarding potential trail connections through or adjacent to the property and to the adjoining neighborhoods.

Issues:

- A sidewalk gap exists on the west side of Willie Mays Parkway from just south of the canal crossing to Kozart Street. Although the immediate roadside area is owned by the City of Orlando, this area is very narrow and therefore some use of the Orange County Public School (OCPS) Board landscape/buffer area further to the west may be need to complete the gap. This would require a separate agreement with OCPS. The completion of the gap will help with connectivity in the immediate area of the trail.
- The trail is proposed to be extended north along the west canal bank where it turns to the north, terminating at the Columbia Street, / S. Ivey Lane intersection. This would provide better access to the trail network for the residents living along the S. Ivey Lane corridor. However, approximately half of the north-south trail segment (approximately 700 feet) would be on property owned by OCPS. It should be noted that where the trail would be placed is outside of the existing fence for Carver Middle School, so the trail would be unlikely to impact OCPS operations.

Figure 4-1: Carver Shores Trail Overview Map



ID # 5| Orlando Urban Trail, West Segment 2 (Shingle Creek Trail Spur to Tampa Avenue)

Preliminary Screening Level: HIGH

Description

The western section of the Orlando Urban Trail (OUT) will provide a 2.9-mile connection between the existing Shingle Creek Trail and Downtown Orlando and will serve three schools and numerous parks, as shown in Figure 5-1. OUT West Segment 2 begins at the existing terminus of the Shingle Creek Trail Spur near Richmond Heights Elementary School and extends to just east of the Tampa Avenue/ Carter Street intersection.

For most of OUT West Segment 2, the route would consist of a 12-foot off-street path, with the path running alongside roadways in some areas, and passing through publicly owned property such as City parks in other areas. One important proposed connection is the expansion of the existing boardwalk between the Dr. James R. Smith Recreation Complex and L. Claudia Allen Senior Center, and the use of the park just east of the Senior Center to connect the trail to Lake Park Court and Dr. I Sylvester Hankins Park. There are two areas where the alignment would consist of an on-street signed route: through Richmond Heights connecting between the Shingle Creek Trail Spur and Bruton Boulevard, and through the Lake Sunset neighborhood connecting Orange Center Blvd and Lizzie Rodgers Park.

Two alternative trail alignments are proposed, as follows:

- The northern alignment provides an alternative route between Lizzie Rodgers Park and Tampa Avenue and direct access to Orange Center Elementary School. This alternative alignment would provide an off-street trail along the east side of Texas Avenue and the south side of Jacobs Place, and would avoid the area adjacent to the SR 408 off-ramp to southbound Tampa Avenue.
- The southern alignment provides an alternative connection between John Young Parkway and Tampa Avenue that would pass through George Barker Park on the north side of Clear Lake. This alignment would consist of a signed on-street route along Monte Carlo Trail between John Young Parkway and George Barker Park, but would require an opening to be cut into the existing wall at the Monte Carlo Trail cul-de-sac immediately east of John Young Parkway. From the park, the trail would connect to Carter Street, passing Jones High School (former Orlando Sports Campus) along the Clear Lake Basin Stormwater Treatment Facility. If constructed with the preferred alignment or northern alternative, this alignment would complete a 2-mile trail loop.

Implementation

- Coordinate with City parks to make trails improvements in parks, potentially as part of maintenance or stormwater projects. In addition, coordinate with parks on potential trailhead opportunities and trail related events planning.
- Evaluate environmental impacts and mitigation options for boardwalk widening between Smith Recreation Center and Allen Senior Center.
- Complete a more detailed evaluation of potential traffic and access impacts of relocation of existing Bruton Boulevard pedestrian signal at the Smith Rec Center, and coordinate with City Recreation Department.
- Coordinate with Central Florida Expressway Authority on potential reconfiguration of SR 408 off ramp to southbound Tampa Avenue.
- Continue to pursue funding opportunities.

Cost

$4,500,000 (preferred route).

Bicyclist on the sidewalk along John Young Pkwy south of Orange Center Blvd along the proposed trail corridor.



View of the park adjacent to Claudia Allen Senior Center.

Opportunities/Issues

Route / Typical Section

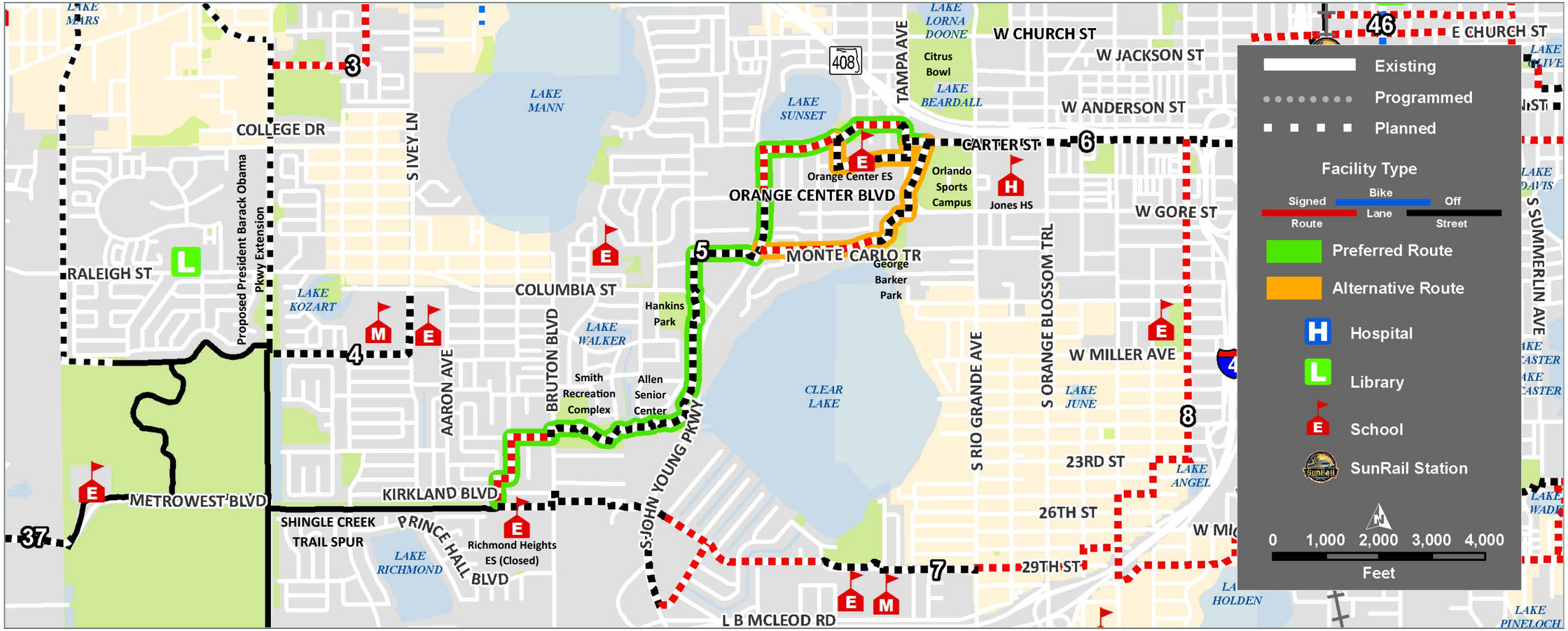
Many different typical sections would be used along the trail, as described below beginning at its western terminus:

- A signed and marked on-street route would be used through the Richmond Heights neighborhood.
- A short section of sidewalk along the west side of Bruton Boulevard north of Covington Street would be reconstructed as a 10-foot wide sidewalk, extending across the landscape strip to the back to curb. This section would provide a connection to the proposed relocated pedestrian signal (see Traffic Impacts section). This section of trail could potentially be set back from the roadway, but would require right-of-way acquisition or an easement from the St. Mark AME Church.
- The existing 6-foot wide boardwalk connecting through the wooded area between Dr. James R. Smith Recreation Complex and L. Claudia Allen Senior Center (approximately 1,300 feet in length) is not wide enough for bicycle usage and would need to be reconstructed to provide a 12-foot wide desirable width.
- The existing 8-foot wide sidewalk at the Senior Center is recommended to be reconstructed as a 12-foot trail.
- Along Lake Park Court, the trail would be 12 feet and separated from roadway edge by a minimum 6-foot landscape strip. At Hankins Park, the trail would be located between the picnic pavilions and parking.
- The trail is proposed to run behind the Wal-Mart shopping plaza along the east side of Goldwyn Avenue between Columbia Street and Monte Carlo Trail and the south side of Monte Carlo Trail between Goldwyn Avenue and John Young Parkway. On both streets, the existing sidewalk would be reconstructed as a 10-foot sidewalk with narrow landscape strip where possible. Along Goldwyn Avenue, utility and light pole relocation may be required to achieve the 10-foot trail width.
- The trail is proposed to be set back from the roadway on the east side of John Young Parkway between Monte Carlo Trail and Orange Center Blvd. A portion might be located on the east side of the existing stormwater retention area, but otherwise would be a minimum 10-foot wide trail replacing the existing sidewalk.
- The preferred route would consist of a signed and marked on-street route through the Lake Sunset neighborhood connecting Orange Center Blvd and Lizzie Rodgers Park. A short trail connector (minimum 10 feet wide) would be needed between the northeast corner of the John Young Parkway/Orange Center Blvd intersection and the cul-de-sac at the south end of Westdale Avenue.
- The existing 6-foot sidewalk through Lizzie Rodgers Park between Texas Avenue and Long Street is recommended to be reconstructed to provide a minimum 12-foot wide trail.
- A signed and marked on-street route is proposed to the east of Lizzie Rodgers Park on Long Street connecting to Tampa Avenue.
- The existing sidewalk on the west side of Tampa Avenue between Long Street and Carter Street would be widened to 10 feet to accommodate the trail, but will require some utility pole relocation.
- Trail would cross Tampa Avenue on the south side of the Carter Street intersection and continue east on the south side of Carter Street towards downtown.

Details related to the typical sections of the two alternative routes are provided below:

- The northern alternative route would consist of a widened 10-foot sidewalk separated from the roadway by a minimum 6-foot wide landscape strip. This same section would apply on the east side of Texas Avenue between Lizzie Rodgers Park and Jacobs Place, the south side of Jacobs Place between Texas Avenue and Tampa Avenue, and the east side of Tampa Avenue between Jacobs Place and Carter Street.
- The southern alternative route would consist of a signed and marked on-street route on Monte Carlo Trail from John Young Parkway to George Barker Park, and a 12-foot wide trail through the park continuing on to Carter Street. It would be preferred to have the trail on the west side of the park entrance so it could avoid crossing the parking lot. At the park entrance, the trail would need to be placed at the back of curb, and some landscaping and trees would need to be removed. On the south side of Gore Street between George Barker Park and Tampa Avenue, the trail would likely continue at the back of curb and may require the roadway to be narrowed to provide a 10-foot wide trail. Between Gore Street and Orange Center Boulevard, a 12-foot trail would be located on the east side of Tampa Avenue with a minimum 10-foot wide landscape strip. The portion of the trail between Orange Center Boulevard and Carter Street would remain at 12 feet wide and could either

Figure 5-1: OUT West Segment 2 Overview Map



replace an existing sidewalk on the east side of the Clear Lake Basin Stormwater Treatment Facility or be placed on the west side of the stormwater facility.

Connections

The proposed section would extend the OUT further to the west and provide a connection to the regional Shingle Creek Trail. It would provide direct connections to several City parks (Smith Recreation Complex, Hankins Park, Lizzie Rodgers Park, George Barker Park, Orlando Sports Campus) as well as the Allen Senior Center. The trail would also provide connections to three schools including Jones High School, Orange Center Elementary School, and Richmond Heights Elementary School (although this school is closing following the 2013-14 school year and it is not known how OCPS intends to use the property in the future). Finally, the trail provides a connection to the Wal-Mart store on John Young Parkway.

Adjacent to the Allen Senior Center, there is potential for the trail to connect to First Baptist Church's Payne Stewart Athletic Complex. A small prefabricated bridge over a canal may be required, but would provide a direct connection from the senior center and adjacent neighborhood to the church and ancillary facilities such as ball fields, gyms and other community gathering locations.

In addition to increasing trip routing options, an approximate 2-mile trail loop would be created if the southern alternative route were constructed in addition to the preferred route or northern alternative.

Drainage/Structures

- A short, prefabricated bridge would be needed to span a narrow canal connecting to Clear Lake adjacent to the Claudia Allen Senior Center.
- Providing a trail along the canal near Clear Lake would provide improved maintenance access to the canal and may present a potential opportunity for joint funding from stormwater funds.
- The preferred alignment adjacent to the dry stormwater retention pond on east side of John Young Parkway north of Monte Carlo Trail needs to be evaluated.
- The southern alternative route would run alongside the City's Clear Lake Basin Stormwater Treatment Facility and impacts to the facility would need to be evaluated.

Environmental

A preliminary environmental assessment of the route found the following:

- There would be wetland impacts associated with the widening of the existing boardwalk from the Smith Recreational Complex to the Allen Senior Center. The wetland impacts are anticipated at

Figure 5-2: OUT West Segment 2 Detailed Map, South Area

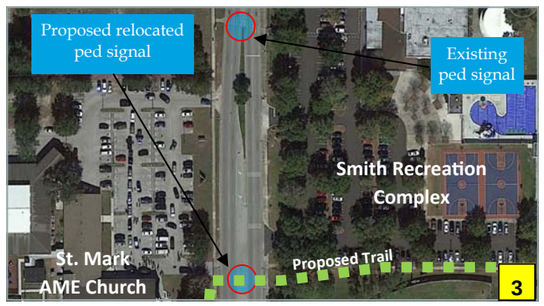




Belafonte Ln in the Richmond Heights neighborhood is proposed to be part of a signed and marked on-street route connecting to the Shingle Creek Trail Spur.



The OUT corridor is proposed to connect to existing Shingle Creek Trail Spur at the south end of Mantilla Avenue at the bridge connecting over the canal to the existing trail.



Aerial view of existing ped signal location on Bruton Blvd at Smith Recreation Complex and proposed signal relocation, which will also require median / access modifications.



The existing boardwalk between Smith Recreation Complex and Allen Senior Center is proposed to be replaced and widened to accommodate the proposed trail alignment.

Figure 5-3: OUT West Segment 2 Detailed Map, Central Area





Park adjacent to the Allen Senior Center bordering Clear Lake. A prefab bridge over a narrow canal and removal of a few trees will be required to connect the trail to this park.



The proposed trail alignment would pass through Hankins Park on the east side of Lake Park Court.

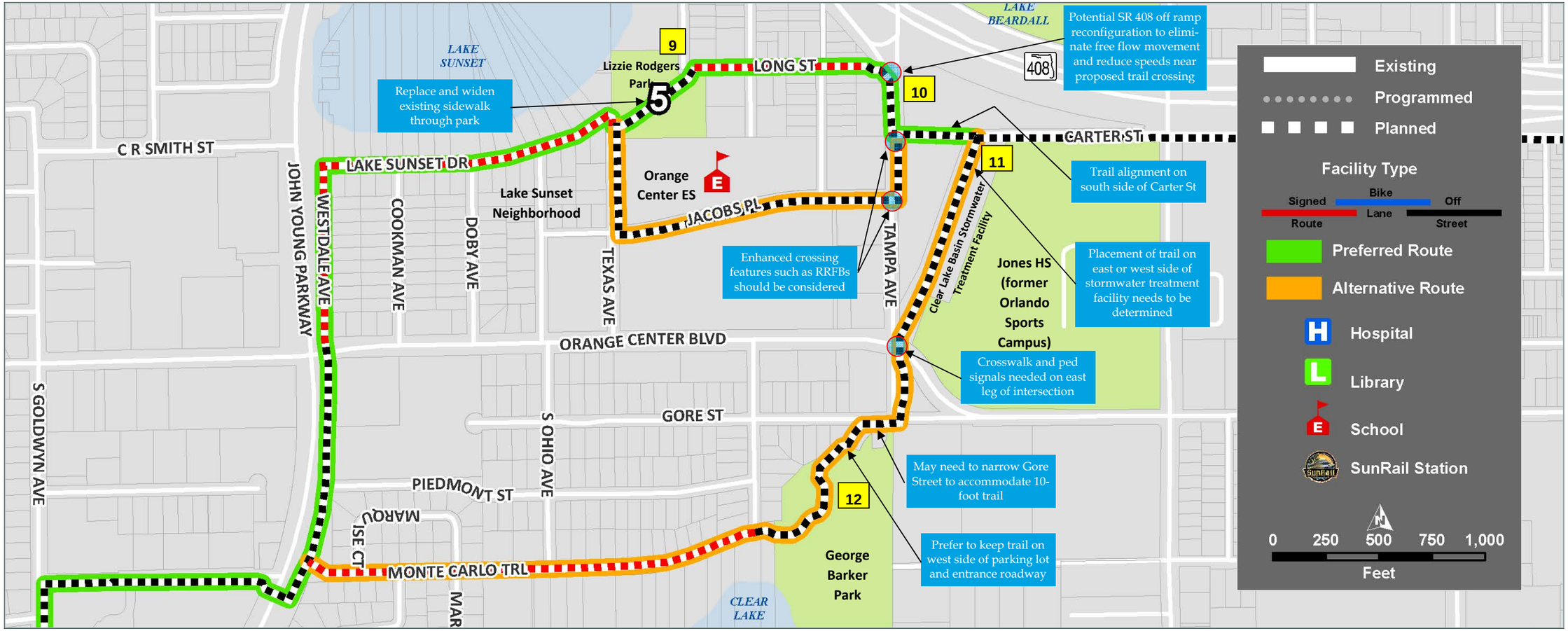


The trail alignment is proposed to route around the edge of a dry retention area on the east side of John Young Pkwy.



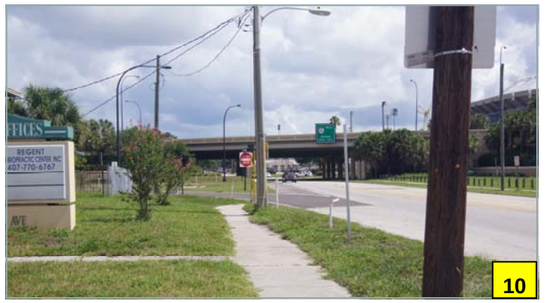
A short section of trail is required to connect the John Young Pkwy / Orange Center Blvd intersection to Westdale Avenue where the trail would continue as a signed on-street route.

Figure 5-4: OUT West Segment 2 Detailed Map, North Area





The existing sidewalk through Lizzie Rodgers Park is proposed to be replaced and widened to accommodate a trail connection.



Tampa Avenue at the proposed trail connection to Long Street, just south of SR 408 which may include reconfiguration of the off-ramp to eliminate the free flow movement.



Existing sidewalk adjacent to the Clear Lake Basin Stormwater Treatment Facility which may be expanded to accommodate a trail.



The southern alternative route would pass through George Barker Park on the north side of Clear Lake.

0.36 acres (1300 lf x 12 lf = 15,600 sf).

- Environmental Resource Permit would be required in accordance with Chapter 62-330.443, F.A.C. through South Florida Water Management District.
- U.S. Army Corps of Engineers permit not anticipated due to use of pier supported structure.
- Wetland mitigation is not anticipated

Utilities

All alignments considered should have minimal impacts to existing utilities. However, there is the potential need for utility pole relocation or undergrounding along sections of Bruton Boulevard, Goldwyn Avenue, Monte Carlo Trail, and Tampa Avenue.

Safety & Security

- The existing boardwalk between the Smith Recreation Center and the Allen Senior Center is in a somewhat secluded, wooded area. Widening the boardwalk and increasing activity along the boardwalk would provide more eyes on the route. However, the design of this area should be coordinated closely with the Orlando Police Department Staff who have Crime Prevention Through Environmental Design (CPTED) training.
- Underbrush along Lake Park Court also presents potential security concerns. Some of the underbrush may need to be cleared. However, the plantings in this area were originally put in place to screen the area from the adjacent John Young Parkway, so a careful balance may be needed here.
- The southern alternative route may widen an existing sidewalk on the east side of the Clear Lake Basin Stormwater Treatment Facility. This sidewalk is in a shaded, but isolated area, and as such may require additional treatments to help ensure public security. Locating the trail on the west side of the stormwater facility would provide better security as it would be more visible from the adjacent roadways, but would require additional tree plantings to provide shading.

Right-of-Way

- The proposed route has minimal right-of-way impacts as it makes use of several areas of existing City owned-property and existing street right-of-way.
- May need a small amount of right-of-way acquisition or a trail easement on the southwest corner of John Young Parkway at Monte Carlo Trail. This property is owned by Greater New Hope Missionary Baptist Church. One potential trade-off for the easement could be an offer of enhanced landscaping at the corner of the intersection. The existing platting should be confirmed to determine if an easements were granted as part of the site's master planning approvals.
- If the southern alternative trail alignment is used there would not be right-of-way impacts along the west side of the George Barker Park entrance, but the trail would cross the driveway of one residential property on the corner of Gore Street and the park entrance road. Since the trail could be built within the public right-of-way, acquisition of the property has not been considered at this point, but it is a concern that should be addressed when this corridor moves into the engineering and design phase. Perhaps a tradeoff could be offered such as enhanced landscaping on the trail edge.

Constructability

There are no major known constructability issues related to any of the alignments. One key issue will be replacing existing sidewalks with a wider trail on roadways such as Bruton Boulevard, Goldwyn Avenue, Monte Carlo Trail, Tampa Avenue, and Gore Street. In these areas, the wider trail may consume the full width of the existing landscape strip, placing the trail at back of curb. Utility impacts will need to be considered and changes to driveway and cross street curb ramps will be needed.

Traffic Impacts

The trail route and crossing points are not anticipated to have significant impacts on traffic operations. However, the following traffic-related issues were identified:

- The existing location of the pedestrian signal on Bruton Boulevard, which aligns with the front door of the Smith Recreation Center, is not well located for a trail crossing. It would be preferred to relocate this pedestrian signal to just south of the Rec Center parking lot – this would provide a directly aligned connection for the trail which is proposed to run along the south side of the parking lot. However in order to solve some property access issues, moving the signal would also require the removal of the median that is currently located immediately south of the pedestrian signal. This median prohibits left turn into and out of the northern parking lot driveway at the St. Mark AME Church. It is recommended that a new median be constructed between Covington Street and the southern parking lot driveway for the Recreation Center, and the pedestrian signal be relocated to provide a crossing within that new median. An evaluation of this proposed signal relocation is recommended to identify the traffic operations impacts to the adjacent sites; it is possible that the relocated signal and modified property access may be able to improve roadway efficiency for all users above and beyond the needs of the trail, making it a "win-win" scenario.
- Existing configuration of the Senior Center parking lot would make it difficult to connect the trail between the existing boardwalk and the park and pathway to Clear Lake. A near term solution might be to have the trail incorporate a short section as a signed route through the parking lot. A more expensive engineering solution might be possible which would involve skirting the south edge of the parking lot and cantilevering the trail over the canal. A route through the parking lot would present potential conflicts with backing and circulating vehicles whose drivers may not be watching for trail users.
- Preferred trail route is along Long Street which ends prior to Tampa Avenue. A short trail connection is proposed to be provided to facilitate the connection with the trail running along the west side of Tampa Avenue then crossing Tampa Avenue south of Carter Street. Directly adjacent to this area is the off ramp from SR 408 to southbound Tampa Avenue which is currently configured as a high speed merge movement. A high speed merge movement is not appropriate for this area as Tampa Avenue is signed at 30 mph. Therefore, it is recommended that this ramp be reconfigured to bring it to a 90 degree angle with Tampa Avenue with stop control to facilitate slower vehicle turns and provide additional space to locate the trail in this area. This reconfiguration would also provide the opportunity to connect the fragmented sidewalk on the west side of Tampa Avenue through the interchange. The crossing itself would likely require additional features beyond signing and marking, such as Rectangular Rapid Flashing Beacons (RRFBs).
- The preferred route would include trail crossings at three existing signalized intersections: Columbia Street / Lake Park Court, John Young Parkway / Monte Carlo Trail, and John Young Parkway / Orange Center Boulevard. Each of these intersections has marked crosswalks and pedestrian features, but additional measures such as leading pedestrian intervals and Yield to Peds blank-out signs might also be considered at these locations to enhance safety for crossing trail users.
- The northern alternative route would include an uncontrolled crossing of Tampa Avenue at Jacobs Place. This location would likely require RRFBs in addition to signage and markings.
- The southern alternative route would require a crosswalk and pedestrian signals on the east approach of the Tampa Avenue/Orange Center Boulevard intersection. In addition, marked crosswalks would be needed on the east approach of Gore Street at Tampa Avenue and on the south approach of the Gore Street / George Barker Park entrance.

User Experience

- There are a number of potential trailhead locations including Smith Recreation Center, Allen Senior Center, Hankins Park, George Barker Park, and Orlando Sports Campus. The City is currently looking to expand parking at the Senior Center which would provide additional opportunity for trailhead use.
- Trail at Senior Center would make use of existing park with scenic views of Clear Lake. Potential for ancillary activities and events (e.g., "Bike and Bird" – bicycle ride to bird watching). The boardwalk section passing through the wooded area between the Smith Recreation Center and Allen Senior Center provides significant shading and would be one of the highlights of a trail user's experience along this section.

ID # 6| Orlando Urban Trail, West Segment 1 (Tampa Avenue to Division Ave)

Preliminary Screening Level: HIGH

Description

The section of the Orlando Urban Trail (OUT) immediately west of Downtown Orlando is proposed to connect 1.2 miles between Tampa Avenue and Division Avenue along Carter Street. The trail would provide connections to destinations west of Downtown such as the Citrus Bowl, Jones High School, Jackson Community Center, and ZL Riley Park , and is proposed to ultimately link to the regional Shingle Creek Trail.

With fewer conflict points and sufficient available width, it is preferred to locate the trail on the north side of Carter Street. However, the SR 408 interchange at Orange Blossom Trail (OBT) with ramps merging to and diverging from Carter Street makes placing the trail on the north side undesirable in that area. Therefore, it is proposed to locate the trail on the south side of Carter Street from Tampa Avenue to east of OBT, where the trail would cross to the north side at either Grove Avenue or Woods Avenue. Continuing east, the trail is proposed stay on the north side of Carter Street to Terry Avenue. The I-4 Ultimate project includes the extension of Carter Street from Parramore Avenue to west of Division Avenue, and provides for the extension of Terry Avenue in the space currently used by ramps from the I-4 / SR 408 interchange. Between Terry Avenue and Division Avenue, the trail will likely need to be located on the south side of Carter Street due to conflicts with bridge piers for the I-4 / SR 408 interchange. Division Avenue is proposed to serve as the primary north-south trail spine on the south side of Downtown Orlando.

Implementation

- Coordinate with the I-4 Mobility Partners related to the desired trail alignment, width, and other features and elements (such as landscaping, hardscaping, and lighting) for the section between Parramore Avenue and Division Avenue. Portions of the trail may be able to be constructed concurrently with the I-4 project.
- Coordinate with FDOT and Central Florida Expressway Authority (CFX) related to the potential to locate the trail in the area between Carter Street and SR 408.
- For sections of the trail that are not incorporated into the I-4 Ultimate project, incorporate construction during the next scheduled milling and resurfacing of Carter Street.

Cost

$1,660,000.



The north side of Carter St at Westmoreland Dr provides the opportunity for a shaded trail under mature trees.



The trail would connect directly to Checker Park, a popular local park in the Parramore neighborhood.



Another local park, ZL Riley Park, is located just south of the trail along Parramore Ave.

Opportunities/Issues

Route / Typical Section

As part of Orlando's signature north-south trail spine, it is preferred to construct a 12-foot wide trail throughout this segment. The trail can be constructed along the majority of its length with this width and include a minimum 5-foot buffer to the back of curb. Trail sections may use a 10-foot width if required due to areas of constraint. The trail may also be located at the back of curb if required due to corridor constraints.

Connections

- Provides a key section of the OUT, extending the trail to the west from Downtown Orlando. The OUT is proposed to ultimately connect further to the southwest to the regional Shingle Creek Trail.
- Destinations served directly or within one-quarter of the this segment of the OUT include the Citrus Bowl, Jones High School, John H. Jackson Community Center, Checker Park, ZL Riley Park, and the Amway Center.

Drainage/Structures

- A small structure or headwall will be needed on Carter Street to have the trail cross the existing canal that is part of the City's Clear Lake Basin Stormwater Treatment Facility.
- There is an existing retaining wall in the northwest quadrant of the Carter Street / Parramore Avenue intersection adjacent to the ramp that connects eastbound SR 408 to westbound I-4. This retaining wall currently hinders the provision of a trail on the north side of Carter Street at the Parramore Avenue intersection. However, the adjacent ramp is being removed as part of the I-4 Ultimate project, so the constraint to the trail at this location will be eliminated.

Environmental

- The trail alignment may impact some mature oak trees along the south side of Carter Street. However in most cases, it appears that the trail can be aligned so as to not require the removal of the trees.
- On the north side of Carter Street between OBT and Parramore Avenue, there is typically 30 feet of width from the back of curb to the retaining wall for the SR 408 in which to locate the trail. The trail alignment will need to meander to avoid impacts to mature trees and landscaped areas, as possible.

Utilities

Utility pole relocation or undergrounding will be required to construct a 10 to 12 foot wide trail along the section of Carter Street between Rio Grande Avenue (east of the Jones High School campus) and OBT.

Safety & Security

- Aligning portions of the trail along the north side of Carter Street provides the benefit of fewer trail conflict points since there are no driveways and a limited number of cross streets on that side.
- Adequate trail lighting should be considered to help ensure personal safety.

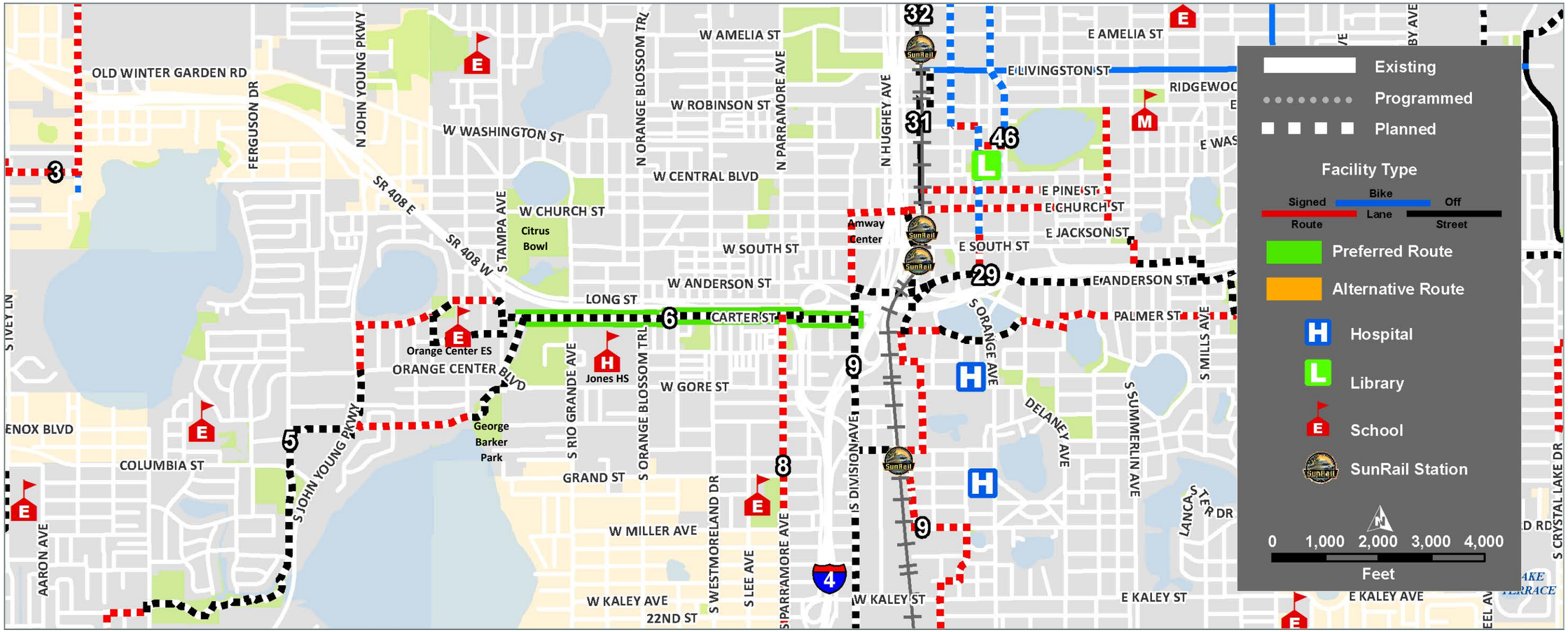
Right-of-Way

Right-of-way impacts are generally not anticipated. However, coordination will be needed with the CFX to align portions of the trail between SR 408 and Carter Street. In addition, there are three privately owned parcels on the south side of Carter Street between Avondale and just east of Dunbar Court that may potentially be impacted by a trail. There is approximately 10 feet of available width between the back of curb and the parcels' right-of-way line. This would allow a minimum width trail placed at back of curb along this section without impacting the right-of-way.

Constructability

There are no major known constructability issues related to the proposed trail alignments. One key issue will be replacing existing sidewalks with a wider trail on portions of Carter Street. To avoid mature trees in these areas, the wider trail may consume the full width of the existing landscape strip, placing the trail at back of curb. Utility impacts will need to be considered and changes to driveway and cross street curb ramps will be needed.

Figure 6-1: OUT West Segment 1 Overview Map



Traffic Impacts

- Enhanced crossing features such as RRFBs may be needed for trail crossings at Rio Grande Avenue, for the crossing to the north side of Carter Street east of OBT, and at Division Avenue. Although having lower traffic volumes, crossing points at Westmoreland Avenue, Parramore Avenue, and Terry Avenue should also be considered for enhanced crossing features beyond signed and marked crosswalks. A potential treatment could be raised speed table crossings designed to slow traffic at the crossing point. Coordination regarding the future traffic control at the Carter Street / Parramore Avenue and Carter Street / Terry Avenue intersections will be needed with the I-4 Mobility Partners.
- Rio Grande Avenue currently has a 4-lane undivided cross section at Carter Street. The current AADT is 7,200, which does not necessitate a 4-lane section for satisfactory traffic operations. Conversion of the street to a 3-lane section would allow a center median refuge island to be provided on the south approach of the Carter Street/Rio Grande Avenue intersection, making roadway crossings easier and safer for trail users.
- Westmoreland Avenue narrows from approximately 62 feet to 40 feet at the Carter Street intersection, with a wide striped out section in the northwest portion of the intersection. This configuration causes some sight-line issues and would not provide a safe crossing environment for trail users. It is recommended that a curb extension be constructed within the striped out area in the northwest area of the intersection to narrow the crossing distance for trail users, and improve the ability of both trail users and motorists to see each other.

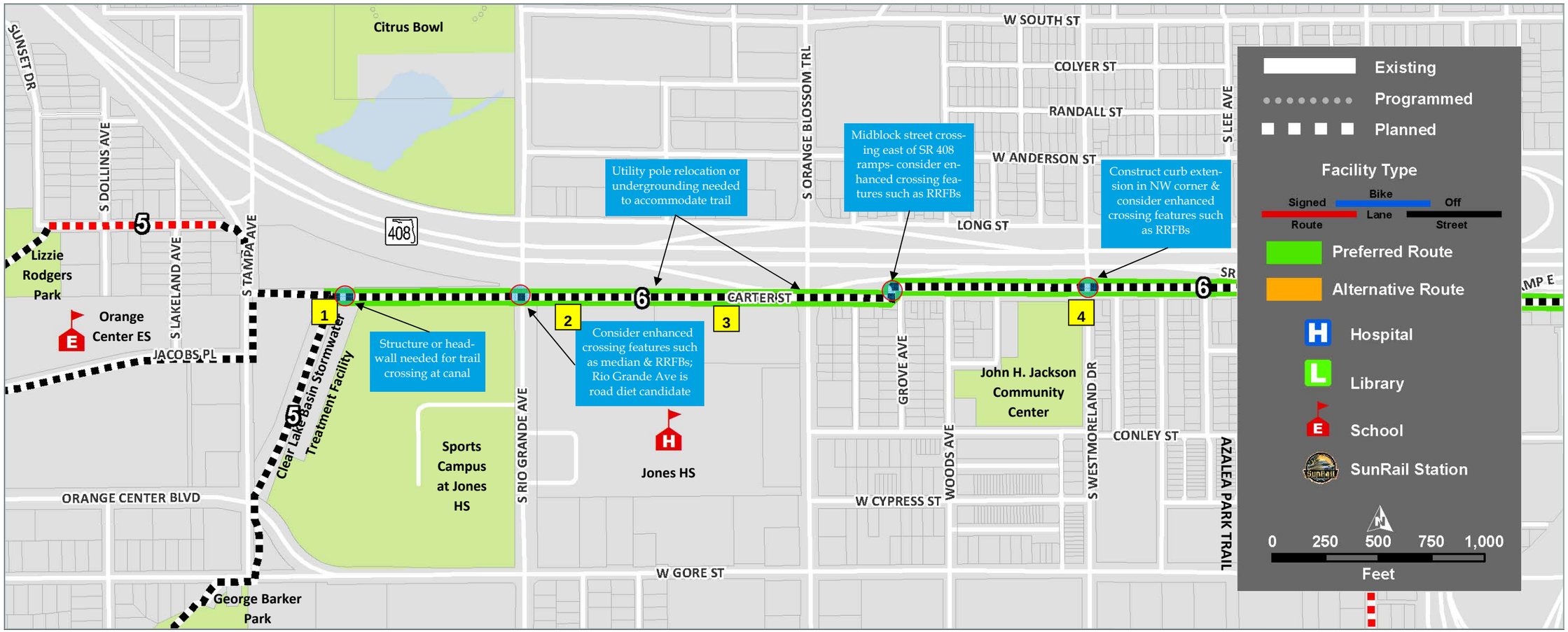
User Experience

- Potential trailhead locations along this section of trail include the Orlando Sports Campus at Jones High School and the Jackson Community Center.
- Connection to historic park settings such as Checker Park and ZL Riley Park provides an opportunity for public art and interpretive exhibits detailing the history and culture of the Parramore neighborhood.



This section of the OUT would provide support for events such as the Parramore Kidz Zone Pedaling for Pride, which in the past has been based at the Jackson Community Center at Carter St and Westmoreland Dr.

Figure 6-2: OUT West Segment 1 Detailed Map, West Area





A structure or headwall is needed for the trail to cross the existing canal near the Clear Lake Basin Stormwater Treatment Facility..



The OUT corridor would be located on the south (right) side of Carter St adjacent to Jones High School, with plenty of available space for the trail, even when encountering trees.

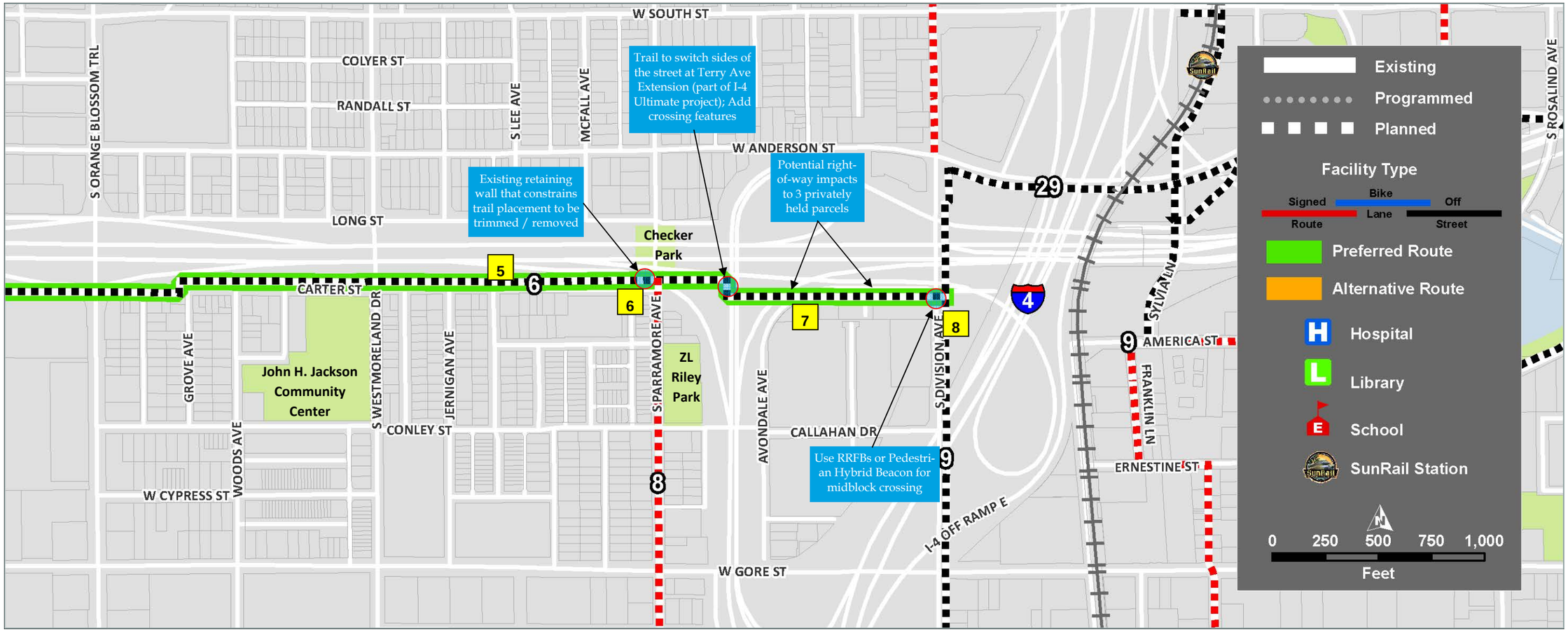


East of Jones High School, there are utility pole conflicts on the south (right) side of Carter St and the SR 408 off and on ramps on the north (left) side at OBT.



A curb extension is recommended to be constructed on the northwest (left) corner of the Westmoreland Dr / Carter St intersection to shorten the crossing and improve sight distance.

Figure 6-3: OUT West Segment 1 Detailed Map, East Area





There is sufficient space on the north (left) side of Carter St adjacent to SR 408 for the trail to the east of Westmoreland Dr.



The retaining wall for the landscape berm on the north (left) side of Carter Street approaching Parramore Ave narrows the available space for the trail and should be trimmed or removed.



Three parcels may have right-of-way impacts on the south (right) side of Carter Street between the proposed Terry Ave Extension and Division Ave.



Division Ave looking north at the proposed trail midblock crossing location at Carter St. Enhanced crossing features such as RRFBs or a pedestrian hybrid beacon should be considered.

Description

The Catalina-Holden Heights Connector, as shown in Figure 7-1, would provide a 3.1-mile east-west route connecting the Shingle Creek Trail Spur on the west to the proposed Division Avenue Trail on the east. The route would pass through the Catalina and Holden Heights neighborhoods, connecting destinations such as the former Richmond Heights Elementary School campus; the First Baptist Church campus including the First Academy School and Payne Stewart Athletic Complex; Clear Lake Park; Catalina Elementary School; and Memorial Middle School. The route is proposed to consist of a combination of off-street trail and on-street signed route on low-speed low volume roadways.

Between the Shingle Creek Trail Spur and John Young Parkway, the route would be an off-street trail primarily along canal frontage. The canal frontage is owned by Orange County Public Schools (OCPS) and First Baptist Church so easements may be required (confirmation will be needed as to whether easements were required during master plan approval). At John Young Parkway, the preferred alignment would require a pedestrian access be provided through the wall connecting to Gulfstream Road. If this connection cannot be made, the alternative route would bypass the wall via John Young Parkway and Clear Way to connect to Gulfstream Road. From that point, the route primarily uses the 29th Street corridor to connect to the proposed Division Avenue Trail.

Implementation

- Coordinate with OCPS and First Baptist Church related to easements along the canal frontage.
- Partner with First Baptist Church to implement the trail along the church's campus to provide connections to their facilities, school, and athletic complex.
- Since portions of the proposed route are outside City boundaries, coordination will be required with Orange County to complete the route and improvements.
- Incorporate short section of Michigan Street sidewalk widening as part of the Division Avenue stormwater / trail project.

Cost

$3,730,000 (preferred route).

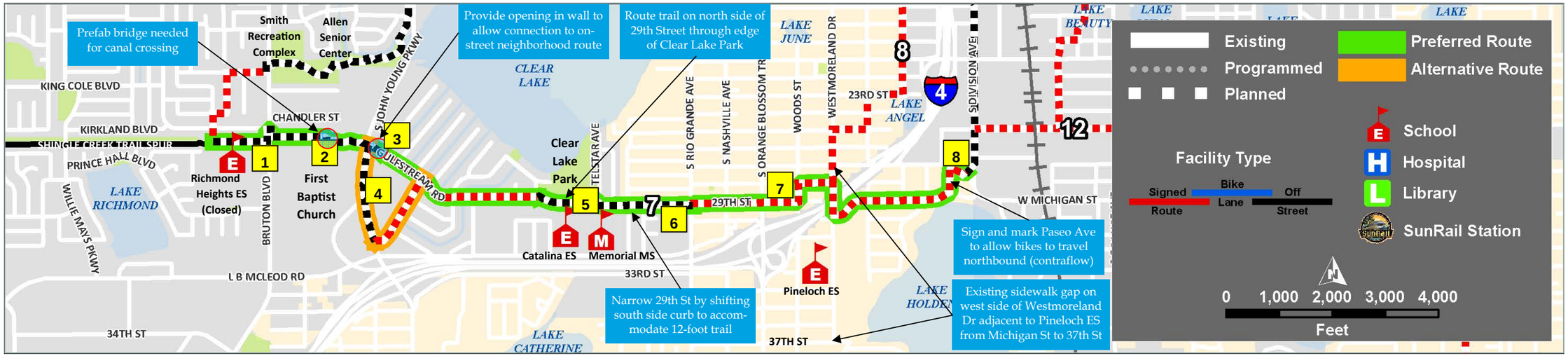
Opportunities:

- The proposed route begins on the west at the existing Shingle Creek Trail Spur and would continue east along the south side of the canal to Bruton Boulevard. The canal frontage is owned by OCPS and is adjacent to Richmond Heights Elementary School campus. The school is now closed and it is not known what OCPS plans to do with this property, but coordination should begin to acquire an easement for the trail connection.
- The trail is proposed to cross John Young Parkway at the existing First Baptist Church signal. The signal provides a preferred crossing point, but will need to be upgraded to include a crosswalk and pedestrian signals on the north leg of the intersection.
- Much of the route is proposed to be a signed and marked bike route and several of the roadways have traffic calming features such as speed humps or tables. Shared lane marking ("sharrows") and bike route/ wayfinding signs are proposed to be added to emphasize the bike route.
- Utilize the edge of Clear Lake Park for a minimum 12-foot off-street trail. Continue the trail along the south side of the 29th Street between Telstar Avenue and Rio Grande Avenue by narrowing the street section. The existing roadway is 30 feet wide between curb faces and could be narrowed by shifting the southern curb. This would allow for a 12-foot wide trail providing a direct connection to Memorial Middle School and Catalina Elementary School.
- The one-block section of 29th Street between OBT and Woods Street has underutilitzed head-in angle parking which can be hazardous for bicyclists due to the backing movement of exiting vehicles. This roadway section represents an opportunity to convert to parallel parking and provide bicycle lanes with 3 feet of striped buffering to the parking spaces. The placement of the bike lanes could be on the left side of the parking like traditional bike lanes or alternatively on the right (curb) side like contemporary one-way cycle tracks.
- Pineloch Elementary School is located just south of 29th Street on Westmoreland Drive. While Westmoreland Drive has an existing sidewalk south of Michigan Street on the east side of the street (opposite from the school), there is currently no sidewalk on the west side of the street from Michigan Street to 37th Street. Connecting the proposed route to the school by filling the Westmoreland Drive sidewalk gap presents an opportunity to improve conditions for students bicycling and walking to school.
- Paseo Avenue provides a connection between 29th Street and Michigan Avenue just west of Division Avenue which is proposed to have a trail constructed as part of a City stormwater project. However, Paseo Avenue today is signed as a one-way southbound street, not due to its width but to limit cut-through traffic. It is recommended that Paseo Avenue be signed and marked with a contraflow bike lane to allow bicycles to legally make the northbound contraflow movement from 29th Street to Michigan Street.

Issues:

- Two sections of trail along a canal on opposite sides of Bruton Boulevard would be linked by crossing the road at the existing Kirkland Boulevard signal. There is an existing sidewalk on both sides of Bruton Boulevard that could be widened across the existing landscape strip to provide a minimum 10-foot wide trail. However, curb ramps and a driveway on the east side of the road would need to be modified and a signal strain pole on the southwest corner of the Bruton Boulevard / Kirkland Boulevard intersection would likely need to be moved to complete the trail connection.
- East of Bruton Boulevard, the trail is proposed to be aligned on the north side of the canal (which is just south of Chandler Street). However, the trail will need to cross to the south side of the canal prior to reaching John Young Parkway in order to cross John Young Parkway at the existing First Baptist Church signal. Because the canal frontage between Bruton Boulevard and John Young Parkway is owned by First Baptist Church, coordination will be required to determine the current easement status. This trail section would provide access to the Church's First Academy School and Payne Stewart Athletic Complex, so having a trail could be viewed by the church as beneficial.
- There are no existing inlets on the south side of 29th Street between Telstar Avenue and Rio Grande Avenue, so narrowing the street in this section to provide a trail along the south side of the street should not impact drainage facilities. However, there are utility and light poles that would need to be relocated and or utilities will need to be undergrounded.
- An alternative route has been provided if providing an opening in the wall at the western terminus of Gulfstream Road cannot be achieved. This route would provide a trail along the east side of John Young Parkway from First Baptist Church to Clear Way, and then a signed route on Clear Way back to Gulfstream Road. The trail along John Young Parkway would consist of replacing the existing 5-foot sidewalk with a 10-foot wide trail and may require the relocation of light and utility poles, as well as a section with retaining walls due to a drop off in the topography at the edge of the existing sidewalk. In some areas, it may be possible to meander the trail alignment to avoid poles and trees. Clear Way has existing bikes lanes, although they are located directly adjacent to on-street parking which puts bicyclists within the "door zone" of potential opening driver side vehicle doors. If the alternative route is used, it may be preferred to restripe this roadway to remove the bicycle lanes in favor of wider travel lane and center sharrows in the travel lane.
- The existing Michigan Street / Division Avenue intersection is wide with channelized right turn movements that encourage high speeds. It is recommended that the consideration be given to closing the westbound right turn channelization as part of the forthcoming City stormwater project. With a change to the turning radius, westbound right turning vehicles could use the northbound lane currently used by only eastbound left turning vehicles. The benefit for bicyclists and pedestrians, including those using the proposed trail, would be that westbound right turning vehicles would have to slow down much more significantly than they do now with the channelized right turn.
- A 200-foot section of trail is proposed along the south side of Michigan Street between Paseo Avenue and Division Avenue. This side of the street has an existing 5-foot sidewalk that is separated from the back of curb by a 3-foot wide landscape strip. Using the landscape strip, the existing sidewalk could be replaced and widened to 8 feet to allow the connection to the proposed trail on Division Avenue. The area at the back of the existing sidewalk is overgrown and is recommended for clearing to allow the full trail width to be usable. To limit the length of trail within this constrained section, it is recommended that the trail route cross Michigan Street at the western Division Avenue crosswalk. This would require an additional crossing of Division Avenue, but that would be mitigated by the previously suggested intersection reconfiguration. A parcel in the northeast quadrant of the intersection would also need an access modification to allow driveway access to be maintained. Further study of this area is needed to confirm the final configuration and alignments.

Figure 7-1: Catalina - Holden Heights Connector Overview Map





Sidewalks along Bruton Blvd would be widened to 10 feet between the canal and Kirkland Blvd to provide access to the signalized crossing.



The proposed trail alignment would cross from the north side the canal at the eastern end of Chandler St to the south side of the canal along the First Baptist Church campus.



Proposed pedestrian connection point through the wall from Gulfstream Rd to John Young Pkwy at First Baptist Church signal.



The sidewalk on the east side of John Young Pkwy would be widened if the alternative route is used, which would require pole relocation and retaining walls due to the topography.



The proposed trail route would pass along the southern edge of Clear Lake Park



29th St is proposed to be narrowed to allow the sidewalk on the south side of the road to be widened to accommodate a min. 10-foot trail. Some pole relocation will also be needed.



East of OBT, 29th St has a wide section with underutilized head-in angle parking, which is proposed to be reconfigured to parallel parking with buffered bike lanes.



The existing sidewalk on the south side of Michigan St be-tween Paseo Ave and Division Ave is proposed to be widened to 8 feet by capturing the landscape strip.

Description

The Parramore Connector Route, as shown in Figure 8-1, would provide a signed bicycle route of approximately 1.7 miles connecting from Carter Street and the proposed Orlando Urban Trail (OUT) on the north to 28th Street and the proposed Catalina - Holden Heights Connector Route (#7) on the south. The Parramore Connector Route provides a convenient neighborhood route on lower volume, lower speed roadways on the west side of I-4, connecting to destinations such as Checker Park, ZL Riley Park, Grand Avenue Park and Grand Avenue Elementary School.

The specific proposed route follows Parramore Avenue between Carter Street and 23rd Street / Harding Street. From there the route connects to Westmoreland Drive via 23rd Street, Lee Avenue, and 25th Street. At Westmoreland Drive, the route continues south and ties into the proposed Catalina - Holden Heights Connector Route at 28th Street between Michigan Street and the I-4 overpass.

Implementation

- Markings and route signage are low cost items that could be implemented in the near term.
- Evaluate the potential to restripe the section of Parramore Avenue between Gore Street and Grand Street. This may potentially be done concurrently with installation of shared lane markings along other portions of the route, or during the normal maintenance schedule for the roadway.
- Since portions of the proposed route are outside City boundaries, coordination will be required with Orange County to complete the route and improvements.
- Coordinate with I-4 Mobility Partners regarding potential extension of median island on Kaley Street to Parramore Avenue east approach.

Cost

$130,000.

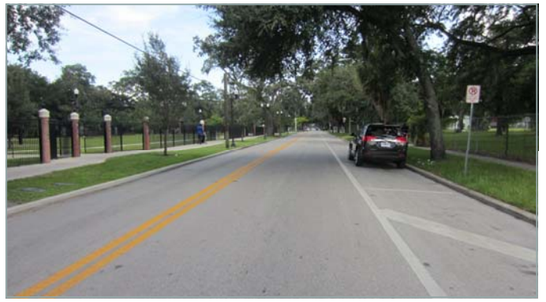
Opportunities:

- Traffic volumes and speeds are generally low along the proposed route which helps to contribute to a more bicycle friendly environment. According to the Orange County Property Appraiser's website, the daily traffic volumes along the proposed route is 2,500 vehicles per day on Parramore Avenue between Carter Street and 23rd Street, and 2,100 vehicles per day on Westmoreland Drive between 25th Street and 29th Street.
- Between Gore Street and Grand Street, on-street parking is allowed on both sides of the two-lane Parramore Avenue. The curb to curb width on this section ranges from approximately 42 to 44 feet, providing the potential opportunity for reconfiguration to incorporate a bicycle-specific facility if the underutilized parking on one side of the street were removed. One potential configuration is to incorporate bicycle lanes with buffering provided to the parking side. If the travel lanes were set to 11 feet and the parking lane was set to 8 feet, a 5-foot buffered bike lanes could be provided with a 3-foot buffer to the on-street parking, and a 6-foot bike lane used on the non-parking side. The enhanced section would provide a connection between Gore Street and Grand Avenue Park. Additionally, Gore Street is proposed to provide a trail along its north side between Parramore Avenue and Division Avenue as part of the I-4 Ultimate project, which would provide a link across to the east side of I-4 to the proposed north-south trail corridor on Division Avenue.
- While Parramore Avenue is only one-quarter mile west of a proposed primary north-south trail corridor along Division Avenue (ID #9), the presence of I-4 between Parramore Avenue and Division Avenue can present a significant barrier to bicycle connectivity, both from general access and intimidation standpoints. There is a 0.75 mile distance between the available east-west connections points underneath I-4 at Gore Street and Kaley Street. Further, those connecting streets require navigating across freeway ramps. Therefore, this proposed route provides an opportunity for bicyclists to have neighborhood mobility while avoiding having to travel out of their way through potentially bicycle-unfriendly areas to access the trail along Division Avenue.
- The use of shared lane markings, along with route/wayfinding signs, is recommended to be used for the entire proposed route (with the exception of Parramore Avenue between Gore Street and Grand Street if that section has buffered bike lanes implemented).
- At its intersection with Parramore Avenue, Kaley Street is transitioning from a two-lane undivided street to a four-lane divided as it approaches I-4. Immediately east of the intersection begins a painted center median which ultimately becomes a raised median about 240 feet east of the intersection. Modifying the painted median as a raised median would provide enhanced crossing opportunities for bicyclists and pedestrians on Parramore Avenue crossing the uncontrolled Kaley Street by providing a refuge area, allowing them to cross one direction at a time. It may be possible to incorporate this as part of the I-4 Ultimate project, and is recommended to coordinate with the I-4 Mobility Partners.

Issues:

- Portions of the proposed route are outside of the City of Orlando limits, so implementation of the full route will require coordination with Orange County.
- The intersection of Michigan Avenue at Westmoreland Drive is missing a complete sidewalk connection to the northwest corner of the intersection, even though Westmoreland Drive has sidewalks on both sides of the street approaching Michigan Avenue from the north. There is a signal strain pole and a utility pole in the northwest corner that may contribute to the lack of continuous sidewalk connection.





The Parramore Connector Route provides access to destinations such as ZL Riley Park.



The proposed route begins on the north at Checker Park, a popular local park in the Parramore neighborhood.



Parramore Ave between Gore St and Grant St is very wide, allowing on-street parking on both sides of the street. However, the parking is poorly utilized, thereby making this section a candidate for reconfiguration such as buffered bike lanes.



One of the primary destinations along the proposed route is the City's Grand Avenue Park.



Looking east towards I-4 at the Parramore Ave / Kaley St intersection. The striped median provides an opportunity to construct a raised median island that would provide a refuge for crossing bicyclists and pedestrians.

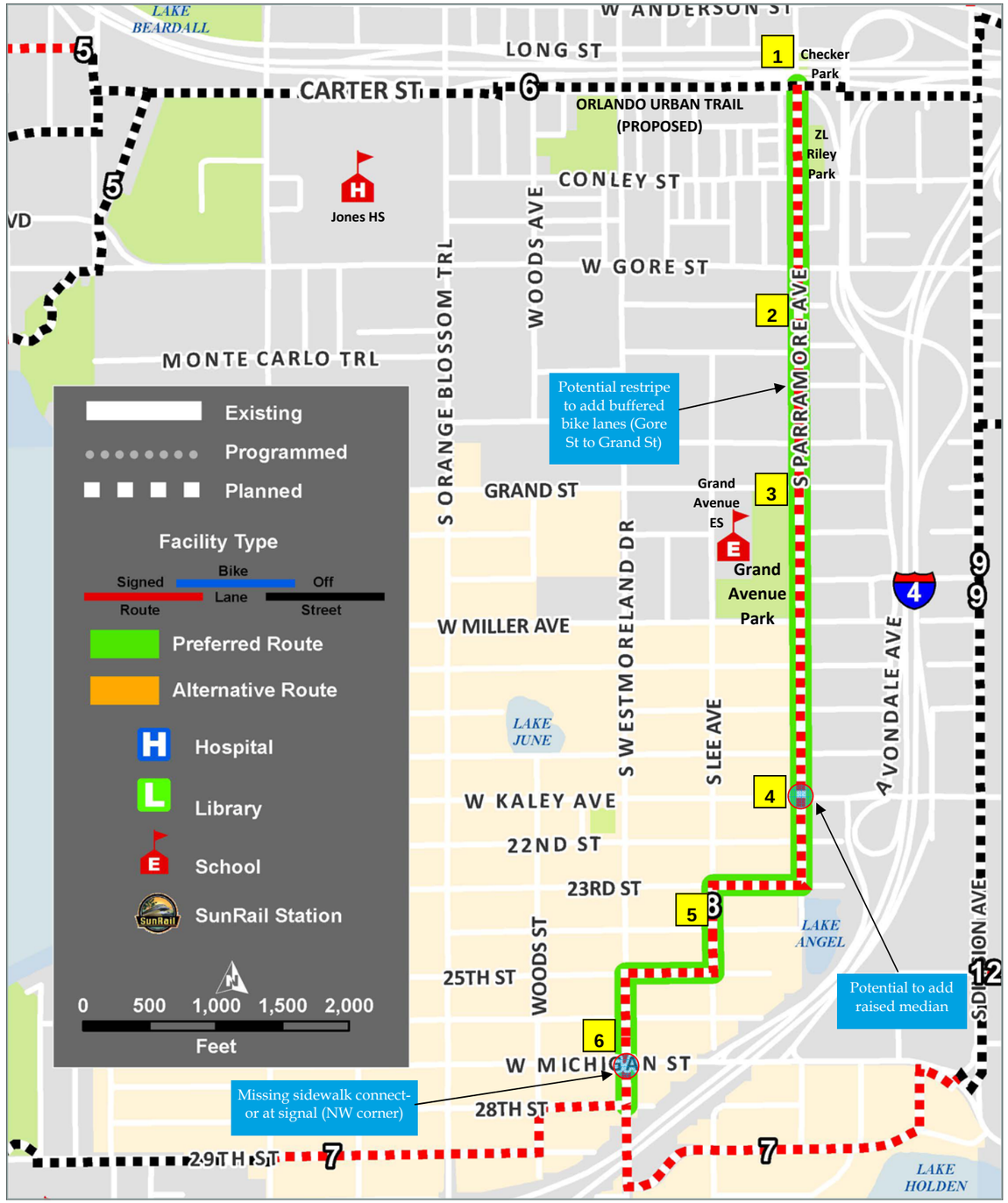


Many bicyclists already ride in the street in this low speed, low volume neighborhood at Lee Ave and 24th St.



Westmoreland Dr has complete sidewalks on both sides of the street approaching Michigan Ave from the north but has a gap right at the intersection on the west side (northwest corner of the intersection).

Figure 8-1: Parramore Connector Route Overview Map



Description

The Downtown Central Trail will provide a critical north-south trail connection in the City between Michigan Street on the south and the Orlando Urban Trail (OUT) / Gertrude's Walk on the north. This critical 2.5-mile trail connection will not only link several different trails together, but also navigate through the I-4 / SR 408 interchange area thereby crossing two of the biggest barriers to bicycle connectivity in the City. A portion of the trail will serve as a link on the OUT between the southern end of Gertrude's Walk and the Division Street / Carter Street intersection, at which the OUT alignment is proposed to head west.

The preferred route is along Division Avenue from Michigan Street to Anderson Street, then east along Anderson Street over I-4 to Boone Avenue. The trail is then proposed to turn south on the Boone Avenue Extension which will allow the trail to loop back underneath Anderson Street via Sylvia Lane to continue north on the west side of the City Commons parking garage and adjacent to the railroad corridor to South Street. The trail corridor will then run west to Garland Avenue, then north to Church Street. While the entire preferred route is proposed to be off-street trail, the last block of the connection to Gertrude's Walk on Church Street will be a signed route. Two projects are proposed to incorporate a trail along this corridor. The first is a City of Orlando stormwater project on Division Avenue which will include reconstruction of the roadway between Michigan Street and Gore Street. The second is the I-4 Ultimate project which is proposed to include improvements along Division Avenue at Kaley Avenue and from Gore Street to Anderson Street, as well as a new wider pedestrian bridge on Anderson Street over I-4, and construction of the Boone Avenue Extension.

The preferred route also includes a spur on Columbia Street from Division Avenue to the Orlando Health / Amtrak SunRail Station access point.

There are two alternative signed routes identified as part of the Downtown Central Trail corridor that will assist in maximizing bicycle connectivity in the area:

- The south alternative route is a proposed signed route through the Orlando Health Downtown Campus area which connects from Sylvia Lane to the Orlando Health / Amtrak SunRail Station and continues south to Grant Street at the SoDo development. This route is proposed to use Sylvia Lane, America Street, Franklin Lane, Ernestine Street, Menendez Court, South Lucerne Terrace, Columbia Street, Sligh Boulevard, Miller Street, Kuhl Avenue, Pennsylvania Street and South Lucerne Terrace.
- The north alternate route connects to the OUT at Gertrude's Walk by going to the west and north of the Amway Center, first on Division Avenue from Anderson Street to Church Street, then east on Church Street to Gertrude's Walk. Although this route has streets with wide sidewalks, it is proposed to be a signed route rather than designating the sidewalks as a trail because it is an area of high pedestrian demand during event periods at the Amway Center. This route is also more direct than the proposed preferred route and avoids the grades associated with the Anderson Street bridge and Boone Avenue Extension.

Implementation

- Coordinate with I-4 Mobility Partners regarding the inclusion of potential trail elements into the I-4 Ultimate project.
- Coordinate roadway typical section and trail accommodations on Division Avenue as part of the City stormwater project.
- Markings and route signage on several streets along the alternative routes are low cost items that could be implemented in the near term.
- Coordinate with Orlando Health on potential bicycle and pedestrian related improvements on the south alternative route associated with the Downtown Campus Master Plan.
- Coordinate opportunities on Columbia Street and Sligh Boulevard with the proposed City project for those streets.

Cost

- Preferred route (including trail sections within City stormwater project and I-4 project, except Anderson Street structure over I-4): $3,220,000.
- Portion of preferred route outside of proposed City stormwater project and I-4 Ultimate project: $350,000.
- North alternative route (0.46 miles only): $20,000.
- South alternative route: $200,000.

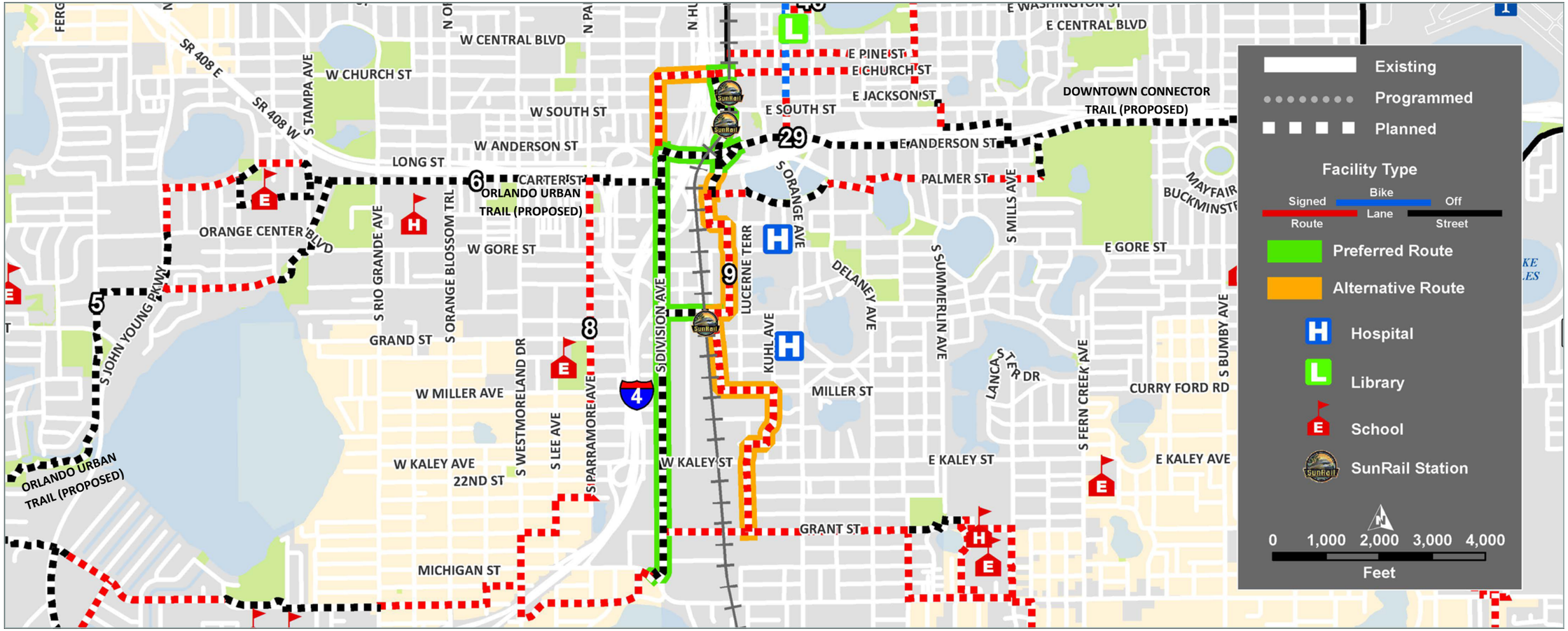
Opportunities/Issues

Route / Typical Section

Preferred Route:

- The trail facility along Division Avenue between Michigan Street and Gore Street will be coordinated as part of the City's planned stormwater project. It is desirable to incorporate a minimum 10-foot wide trail (12-foot preferred) with minimum 5-foot landscape buffer. The side of the street on which to place the trail has not been determined. The number of driveways and cross streets on each side of the street is similar, although the west side does not have any through streets due to the proximity of I-4, and therefore, traffic volumes on the streets on the west side should generally be lower.
- The I-4 Ultimate project is proposed to include wide sidewalks along Division Avenue from south of Gore Street to Anderson Street; a widened pedestrian space along the south side of Anderson Street over I-4; and the construction of the Boone Avenue Extension with wide sidewalks between Anderson Street and Sylvia Lane. A minimum 10-foot wide trail (preferably 12-foot) with 5-foot landscape/hardscape buffer is also preferred on each of these streets. It is preferred for the trail facility on Boone Avenue Extension to be located on the west side of the street so it will connect seamlessly with the facility on the south side of Anderson Street. It will also be important for the Anderson Street / Boone Avenue Extension intersection to incorporate a proper width and turning radius for the eastbound to southbound (and northbound to westbound) movements along the trail.
- There is existing sidewalk on the east side of Sylvia Lane from the proposed Boone Avenue Extension north to the City Commons parking garage exit. The trail is proposed to continue alongside the parking garage within City-owned right-of-way so it would be preferred to keep the trail on the east side of Sylvia Lane by widening the existing 5-foot sidewalk. A crosswalk would be needed at the City Commons parking garage exit, and the exit should be stop controlled at the crossing point due to potential sight distance issues at the exit.
- The existing sidewalk along the south side of South Street between the City Commons garage and Garland Avenue is 13 feet and already suitable to function as a trail. Similarly the sidewalk on the east side of Garland Avenue between South Street and Church Street is 13 feet, and can also function as a trail. A portion of the Garland Avenue sidewalk is bordered by flexible posts which narrows the usable space to 12 feet. It should also be noted that both streets also have light poles within the sidewalk which further decrease the usable width at most of those points to approximately 8 to 9 feet. While it would be preferred to maintain a minimum 10-foot clear width for the trail, it is not recommended to reconstruct this area at this time. However, light poles should be shifted in any locations where they are placed such that the minimum clear width on the sidewalk / trail is less than 8 feet. In the future if the sidewalk is reconstructed, it is recommended to widen the clear width to accommodate a minimum of 12 feet for the trail outside of light poles or other street furniture; there is sufficient right-of-way available to widen the sidewalks in these segments to meet this criteria.
- The South Street and Garland Avenue alignment is being proposed to connect the trail to Gertrude's Walk at Church Street because there is insufficient space for the trail to use the segment of Gertrude's Walk between Church Street and South Street. The west side of the railroad tracks in this area does not have sufficient space or right-of-way to accommodate a trail. The east side of the tracks is being used for the northbound Church Street SunRail Station, which is not an area in which through bicycle traffic should be encouraged due to pedestrian demand and limited width.
- Along Garland Avenue, just south of the porte-cochere at the Ballroom at Church Street, there is a short section (aout 20 feet in length) between two driveways where the sidewalk narrows to only 5 feet in width. This area should be reconstructed to provide a consistent width to the rest of the section along Garland Avenue.
- The trail spur on the preferred route to the Orlando Health/ Amtrak SunRail Station is proposed to be placed on the south side of Columbia Street between Division Avenue and the SunRail platform just west of Sligh Boulevard. The western block of this segment between Division Avenue and Atlanta Avenue is more constrained as the existing 5-foot sidewalk has a landscape strip of between 3 and 7 feet. However, portions of the roadway have little curbing, which would need to be reconstructed in order to fill in the landscape strip to accommodate a trail. The next block between Atlanta Avenue and the SunRail platform has a much wider landscape strip on the south side of the street. The

Figure 9-1: Downtown Central Trail Overview Map



landscape strip also has room to widen the existing sidewalk to 10 feet without impacting the existing shade trees in the buffer area.

North Alternative Route:

- The north alternative route is simply a signed route along Division Avenue between Anderson Street and Church Street, and along Church Street between Division Avenue and Gertrude's Walk. No new provisions or facilities other than route/wayfinding signage and shared lane markings are recommended.

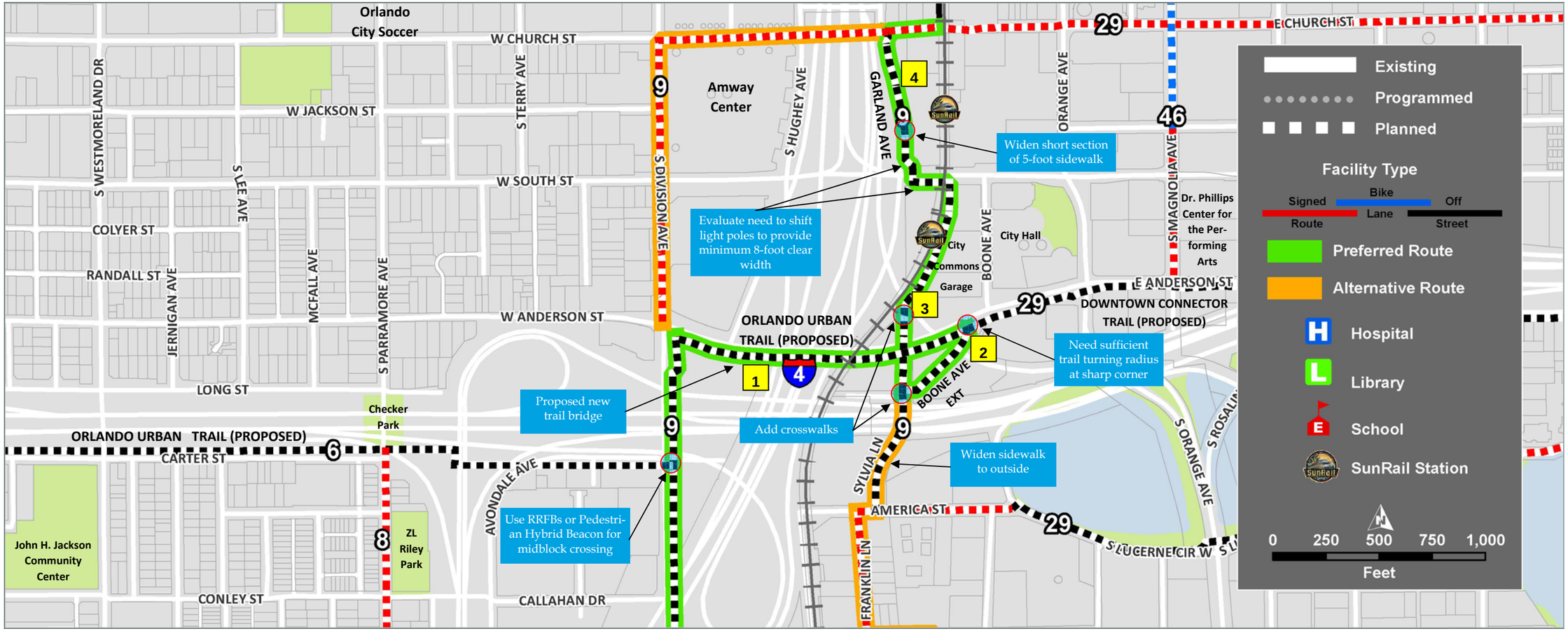
South Alternative Route:

- The only section of the south alternative route that is proposed to include a trail is on Sylvia Lane from Boone Avenue Extension to America Street, which is proposed to be located on the west side of the street. This section currently has a 5-foot sidewalk with varying width landscape buffer and light poles located within the buffer. There is sufficient available right-of-way to widen the existing sidewalk to the outside to a 10 or 12-foot trail width, although this will require the removal of some existing trees and relocation of an existing fence along OUC property (which is placed within the street right-of-way).
- The balance of the south alternative route is proposed to be a signed route with route / wayfinding signs and shared lane markings. With potential changes associated with the Orlando Health Downtown Campus Master Plan affecting the streets on the route, coordination should occur with Orlando Health representatives to incorporate potential route enhancements as street sections are modified, reconfigured, or realigned.
- Improvements are already planned for Sligh Boulevard adjacent to the SunRail Station, and will include the provision of shared lane markings.

Connections

The Downtown Central Trail will serve as a critical north-south connector within the City's trail network and will include a segment of the OUT through the I-4 / SR 408 interchange area. This route will serve as a primary bicycle connection into and out of Downtown Orlando and its high density residential districts, regional employment centers, and various cultural and entertainment venues, as well as to activity centers and employment hubs on the south side of downtown such as SoDo and the Orlando Health Downtown Campus. The preferred route will also provide a direct trail connection to one of the City's four SunRail Stations at Orlando Health / Amtrak. Finally, the trail will connect to the primary east-west trail in the City's proposed trail network, the Downtown Connector Trail (ID #29), as well as to two proposed bike routes near its southern terminus, the Catalina - Holden Heights Connector (ID #7) and the Conway East-West On-Street Connector (ID #12).

Figure 9-2: Downtown Central Trail Detailed Map 1





Existing 7-foot sidewalk on south side of Anderson St on bridge over I-4. Improvements are planned as part of the I-4 Ultimate project to incorporate a wider trail bridge.



Proposed location for the Boone Ave Extension, which is pro-posed to be completed as part of the I-4 Ultimate project and incorporate a trail alongside the roadway.



Potential trail corridor between the railroad and the City Commons parking garage connecting between the Boone Ave Extension and South St.



Garland Ave just south of Church St already has a 12-foot wide sidewalk on the east side which could serve as a trail connection to the Gertrude's Walk section of the OUT.

Figure 9-3: Downtown Central Trail Detailed Map 2

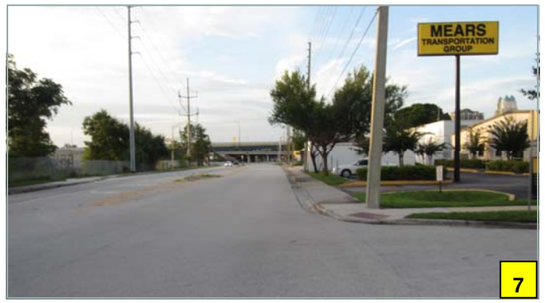




The western portion of the proposed Columbia St trail spur would require widening the existing sidewalk, but space is limited.



There is more available space for the SunRail trail spur on Columbia St east of Atlanta Ave, and the trail could be located under existing shade trees.

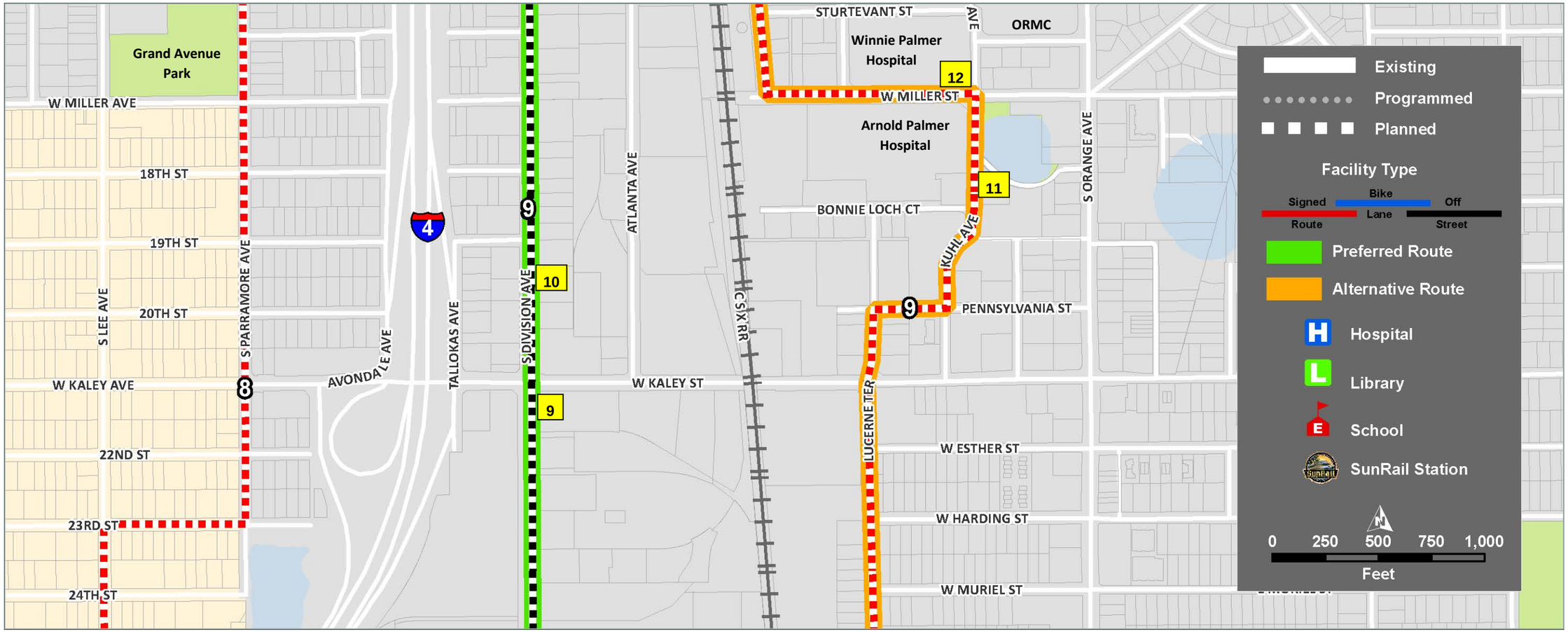


Division Ave just south of Gore St where the right-of-way line is located at the back of sidewalk.



Sligh Blvd at the Orlando Health / Amtrak SunRail Station. The existing roadway section has two lanes and on-street parking, but is very wide (about 50 feet between curbs).

Figure 9-4: Downtown Central Trail Detailed Map 3





View of the Division Ave / Kaley Ave intersection looking north. The large utility pole presents a significant obstacle to placing the trail within the available right-of-way.



Division Ave north of Kaley Ave, where more than one mature tree would need to be removed to accommodate a trail on the east side.

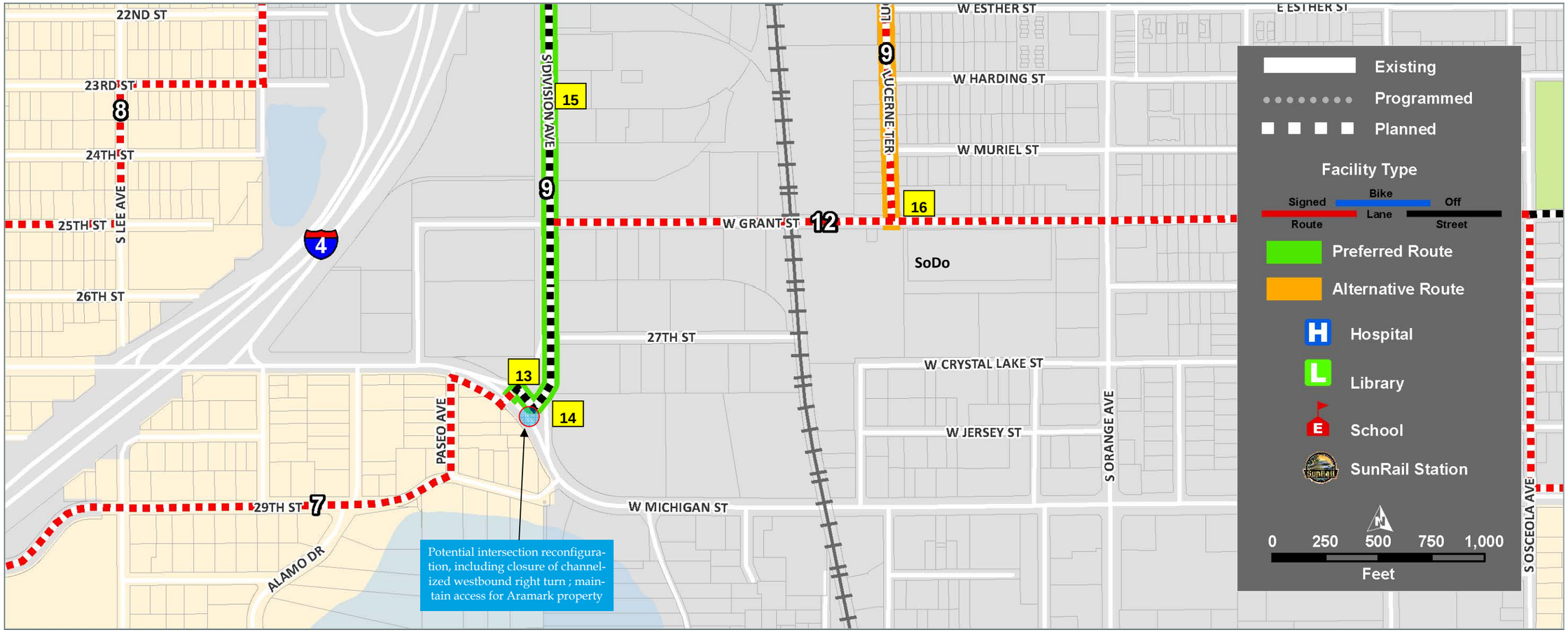


Kuhl Ave would serve as part of the signed route through the south portion of the Orlando Health Downtown Campus.



Miller St, which passes between the Winnie Palmer and Arnold Palmer Hospitals would also be part of the proposed signed route through the Orlando Health Downtown Campus.

Figure 9-5: Downtown Central Trail Detailed Map 4





The Division Ave / Michigan St intersection should be reconfigured to make it more compact and slow the westbound right turns to make the trail crossing safer.



If the channelized westbound right turn from Michigan St to Division Ave is closed, access will need to be maintained to the Aramark parking lot on the northeast corner.



The Division Ave corridor has sufficient right-of-way to accommodate a trail, however, there may be other impacts such as to existing utilities.



The south alternative route ends at South Lucerne Terr and Grant St, adjacent to SoDo. The route also intersects the Conway East-West On-Street Connector (ID #12) at that point.

Drainage/Structures

- Drainage is the primary concern that has led to the proposed City stormwater project on Division Avenue. This project will involve reconstruction of the roadway and drainage structures to ensure appropriate stormwater management.
- The need for improved curbing along a block of the south side of Columbia Street associated with the trail spur to the SunRail Station will necessitate evaluation of the stormwater system along that block.
- A new structure is being proposed for the trail along the south side of Anderson Street over I-4 as part of the I-4 Ultimate project. Coordination will be needed with the I-4 Mobility Partners on the connecting points for this new structure.

Environmental

- The removal of some trees will be needed along Sylvia Lane south of the Boone Avenue Extension in order to widen the existing sidewalk to trail width to the outside of the sidewalk.
- There will also be impacts to trees within the limits of the City's stormwater project on Division Avenue and the I-4 Ultimate project, although these impacts will be addressed as part of those projects.

Utilities

- Utility impacts outside of the limits of the City stormwater project on Division Avenue and the I-4 Ultimate project are anticipated to be minimal.
- It is recommended to shift the placement of light poles along the sections of South Street and Garland Avenue along the preferred route in any locations where they are placed such that the minimum clear width on the sidewalk / trail is less than 8 feet.

Safety & Security

There are potential personal security concerns for the portion of the preferred trail route along Sylvia Lane underneath Anderson Street and along the west side of the City Commons parking garage due to its isolated location. With the proposed corridor intending to serve as a key section of the OUT through the I-4 / SR 408 interchange area, activating this area may provide for more eyes on the route. However, the design of this area should be coordinated closely with the Orlando Police Department staff who have Crime Prevention Through Environmental Design (CPTED) training. It is also recommended to include adequate lighting in this area.

Right-of-Way

- The proposed route has minimal right-of-way impacts as it makes use of several areas of publicly-owned property and existing street right-of-way.
- Division Avenue appears to have sufficient right-of-way to accommodate a trail. South of Kaley Avenue, the street has 80 feet of right-of-way, although it decreases to 60 feet between Kaley Avenue and south of Gore Street. Based on the current roadway configuration, there is more available right-of-way on the east side of the street. Since the City's proposed stormwater project would include reconstruction of the roadway, a final determination of the trail placement will be needed.
- There is a 15-foot wide City-owned right-of-way on the western side of the City Commons parking garage in which a trail could be located between the FDOT-owned railroad right-of-way and the parking garage. The very northern end of the Sylvia Road alignment is within the FDOT railroad right-of-way, so if the trail is located on the west side of Sylvia Lane to its northern terminus, an easement would be needed to get the trail to the City-owned right-of-way. However, if the trail is located on the east side of Sylvia Lane between the Boone Avenue Extension and the City Commons garage (which is preferred), no easement would be needed as FDOT right-of-way would not be impacted.
- The west side of Sylvia Lane south of the proposed Boone Avenue Extension is located adjacent to property owned by Orlando Utilities Commission (OUC). There is sufficient right-of-way behind the back of the existing 5-foot sidewalk to widen the facility to provide a 10 to 12-foot wide trail; however, this would require relocating an existing chain-link fence (which is not located along the right-of-way line) and may necessitate coordination with OUC due to the close proximity of the sidewalk to paved areas at the OUC facility.
- The western block of the preferred route trail spur to the Orlando Health / Amtrak SunRail Station may be able to be expanded to the south. Based on the property lines shown on the Orange County Property Appraiser's website, the Alsco property on the south side of the street is currently using about 20 feet of public right-of-way. It may be possible to reclaim some of this right-of-way to widen the existing sidewalk to trail width, but would require a substantial amount of changes to the Alsco property, as well as moving utility poles that are currently placed behind the back of sidewalk. As such, this option does not seem desirable.

Constructability

There are no major known constructability issues related to any of the alignments. One key issue will be replacing existing sidewalks with a wider trail on roadways such as Division Avenue, Columbia Street, and Sylvia Lane. In these areas, the wider trail may consume the full width of the existing landscape strip, placing the trail at back of curb. Utility impacts will need to be considered and changes to driveway and cross street curb ramps will be needed.

Traffic Impacts

The trail route and crossing points are not anticipated to have significant impacts on traffic operations. However, the following traffic-related issues were identified:

- The existing Michigan Street / Division Avenue intersection is wide with channelized right turn movements that encourage high speeds. It is recommended that the consideration be given to closing the westbound right turn channelization as part of the forthcoming City stormwater project. With a change to the turning radius, westbound right turning vehicles could use the northbound lane currently used only by eastbound left turning vehicles. The benefit for bicyclists and pedestrians, including those using the proposed trail, would be that westbound right turning vehicles would have to slow down much more significantly than they do now with the channelized right turn, making the crossing safer. A parcel in the northeast quadrant of the intersection (currently Aramark) would also need an access modification to allow driveway access to be maintained. Further study of this area is needed to confirm the final configuration and alignments.
- A crosswalk will be needed on the north leg of the Sylvia Lane / Boone Avenue Extension to facilitate movement of trail users to and from the south (the trail to the south is proposed be located on the west side of Sylvia Lane). A second crosswalk will be needed across the City Commons parking garage exit at Sylvia Lane. The garage exit should be stop controlled at the crossing due to potential sight distance concerns.
- On the south alternative route, the existing pavement loop detectors at the Gore Street and Menendez Court / South Lucerne Terrace signal are not sensitive to bicycles. This issue should be addressed through repair, changes to the loop sensitivity, or installation of video detection.
- On the south alternative route, the crossing of the four-lane Kaley Avenue at the unsignalized South Lucerne Terrace intersection may be challenging, particularly during the peak period. Despite the short distance to the nearest signalized intersection at Orange Avenue, a signal may be considered for South Lucerne Terrace intersection, particularly if the Orlando Heath Master Plan indicates a significant increase in nearby development.
- Enhanced crossing features such as RRFBs or a Pedestrian Hybrid Beacon may be needed for the proposed trail crossing on Division Avenue at Carter Street where the OUT continues to the west. An additional potential treatment could be the use of a raised speed table crossing, designed to slow traffic at the crossing point.

User Experience

- With the forthcoming I-4 Ultimate and City stormwater project on Division Avenue, there is the potential to incorporate an enhanced level of aesthetics along the trail corridor that will contribute to an enjoyable and welcoming experience for trail users.
- An effort should be made to add trees along the corridor to help provide shade.



Bicyclists using the Division Avenue corridor north of Michigan Street.

ID # 10 | Vineland Road Trail

Preliminary Screening Level: LOW

Description

As shown in Figure 10-1, the Shingle Creek Trail currently connects to Vineland Road where the Shingle Creek Canal travels under Vineland Road. The Shingle Creek Trail resumes on Millenia Boulevard at Radebaugh Road and continues south along the west side of Millenia Boulevard. The Vineland Road Trail would connect these sections of the Shingle Creek Trail (0.4 miles). The north side of Vineland Road has an existing sidewalk, but it is not wide enough (typically 6 feet) to be considered a trail. An 8-foot sidewalk has been constructed on the south side between Walden Circle and Radebaugh Road and it is planned to be extended to Conroy Road as part of the Millenia Development of Regional Impact (DRI). However, there is potential for the new section to be constructed to a wider 10-foot trail width. The existing Cypress Creek Trail around the north side of Walden Circle provides more convenient access to the Radebaugh Road connection and could potentially serve as the main route for the Shingle Creek Trail. However, this trail is not currently connected across the canal to the Shingle Creek Trail.

Implementation

- Conduct a more detailed midblock trail crossing evaluation for Vineland Road. A potential solution could be to have the crossing completed as a two-stage crossing with a portion of the trail within the median of the Vineland Road . The relocation of existing barrier walls along the bridge separating the sidewalk from the roadway should also be considered to provide a wider trail section on the bridge.
- The Millennia Elementary Trail Bridge will connect across the Shingle Creek Canal from the Cypress Creek Trail. When this connection is made, the trail connection and midblock crossing on Vineland Road would not be critical. However, the proposed completion of the sidewalk on the south side of Vineland Road is still recommended and could function as a spur or connector, rather than a mainline Shingle Creek Trail segment. The Vineland Road midblock crossing would be needed if a light rail transit (LRT) station is built in the long term nearby along I-4.

Cost

$640,000

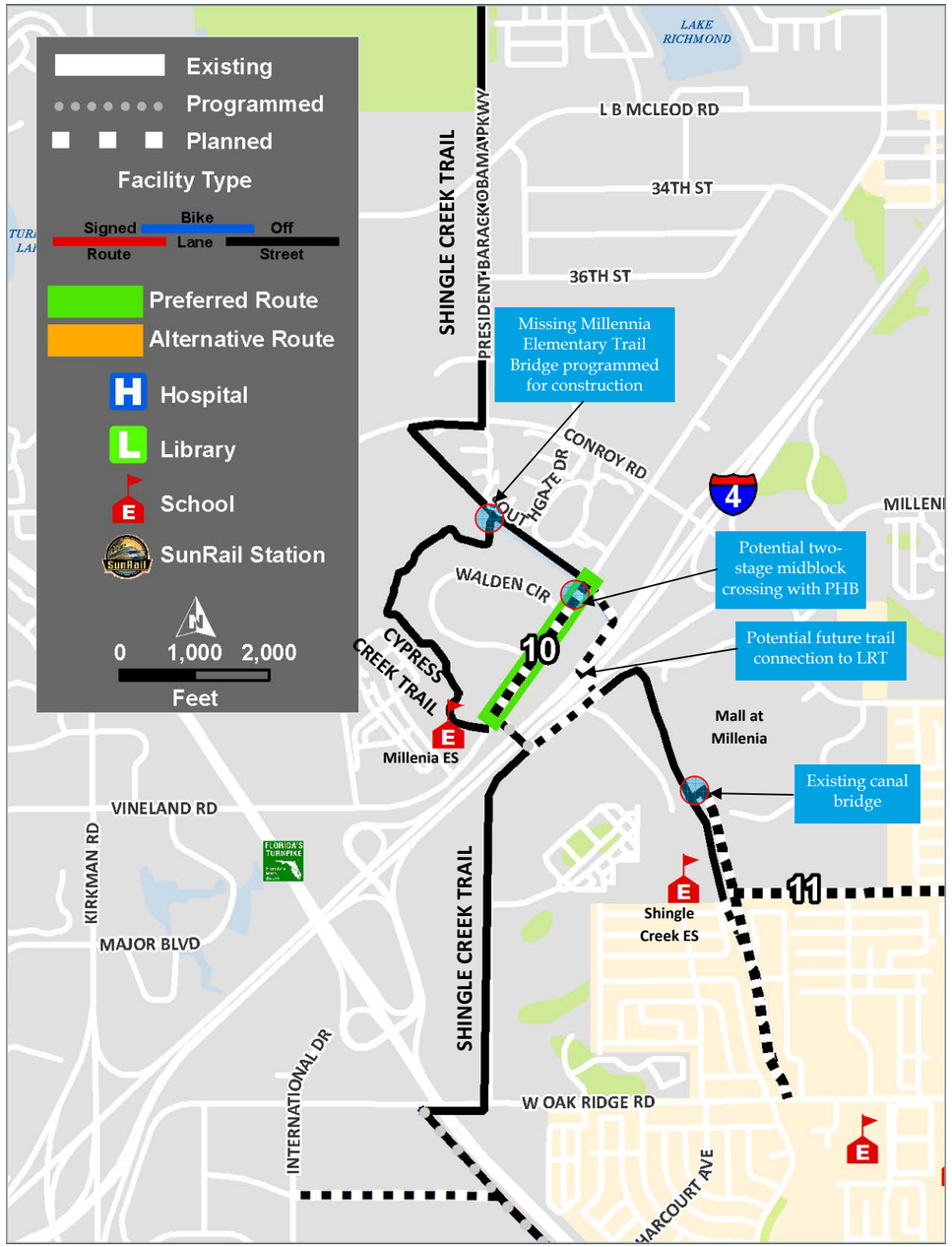
Opportunities:

- The trail provides a connection between two existing segments of the Shingle Creek Trail.
- The south side of Vineland Road has been planned to have an eight foot sidewalk.
- The south side of the Vineland Road has adequate right-of-way for the construction of a ten-foot wide trail. However, some existing trees may need to be removed or a smaller clear zone along the trail of less than four feet may need to be used in some areas.

Issues:

- The right-of-way on the north side of Vineland Road does not have adequate width to accommodate a wider sidewalk that could serve as a trail.
- The trail needs to have a connection across Vineland Road somewhere south of where Shingle Creek currently terminates on the north side of Vineland Road.
- Completing a two-stage crossing of the trail with a segment in the median is an atypical treatment and will require further evaluation. The current daily traffic volume on Vineland Road south of Conroy Road is approximately 22,500 (Orange County 2013 Annual Traffic Counts), which is at a level that will require additional traffic control measures such as RRFBs or a pedestrian hybrid beacon (PHB). If a PHB is used, it could be configured to stop traffic in each direction independently to minimize vehicular delay (the second actuation would occur within the median). If used, it is recommended that the PHB have a “hot response” push button actuation for each crossing leg to minimize non-motorized user delay. New barrier walls and guardrail attenuations would need to be considered within the Vineland Road median for the portion between the two trail crossing stages.

Figure 10-1: Vineland Road Trail Overview Map



ID #11 | Millenia Trail Connectors

Preliminary Screening Level: LOW

Description

As shown in Figure 11-1, the Millenia area is served by the Shingle Creek Trail which comes into the area via a connection under I-4 at Radebaugh Road and continues south along Millenia Boulevard to Oak Ridge Road. Bicycle lanes and an eight foot sidewalk along Millenia Boulevard east of Radebaugh Road connect the main trail to a spur along the Shingle Creek Canal just west of the Mall. The trail spur is a ten foot wide concrete trail on the west side of the canal right-of-way that provides a connection to Shingle Creek Elementary School. A pedestrian bridge provides a connection across the canal to a sidewalk that leads directly to the Mall entrance at the food court. The Millenia Trail Connectors are potential opportunities to extend a total of 3 miles of trails from the Mall at Millenia to the south along the Shingle Creek Canal to Oak Ridge Road and to the east along a canal to Orange Blossom Trail. Since the majority of the length of these trails is outside the City boundaries, coordination will be required with Orange County to implement these trail extensions.

Implementation

- Title work will need to be completed to determine the extent of the public easements. Both canal segments, to the east and to the south have portions where the canal property is privately owned. It is likely that there are easements for drainage, but not for a bicycle or pedestrian trail. Therefore, extensive intergovernmental coordination will be required to plan and implement this section of trail.
- Assessment of the trail alignment relative to its proximity to the top of slope of the canal along with soil borings will be key since slope stability repairs can be an unknown and costly component.
- It is anticipated that the canals are the jurisdiction of Orange County. Coordination with the County will be required and discussion of potential alignments and concerns from the maintaining staff should be completed.

Cost

$3,800,000

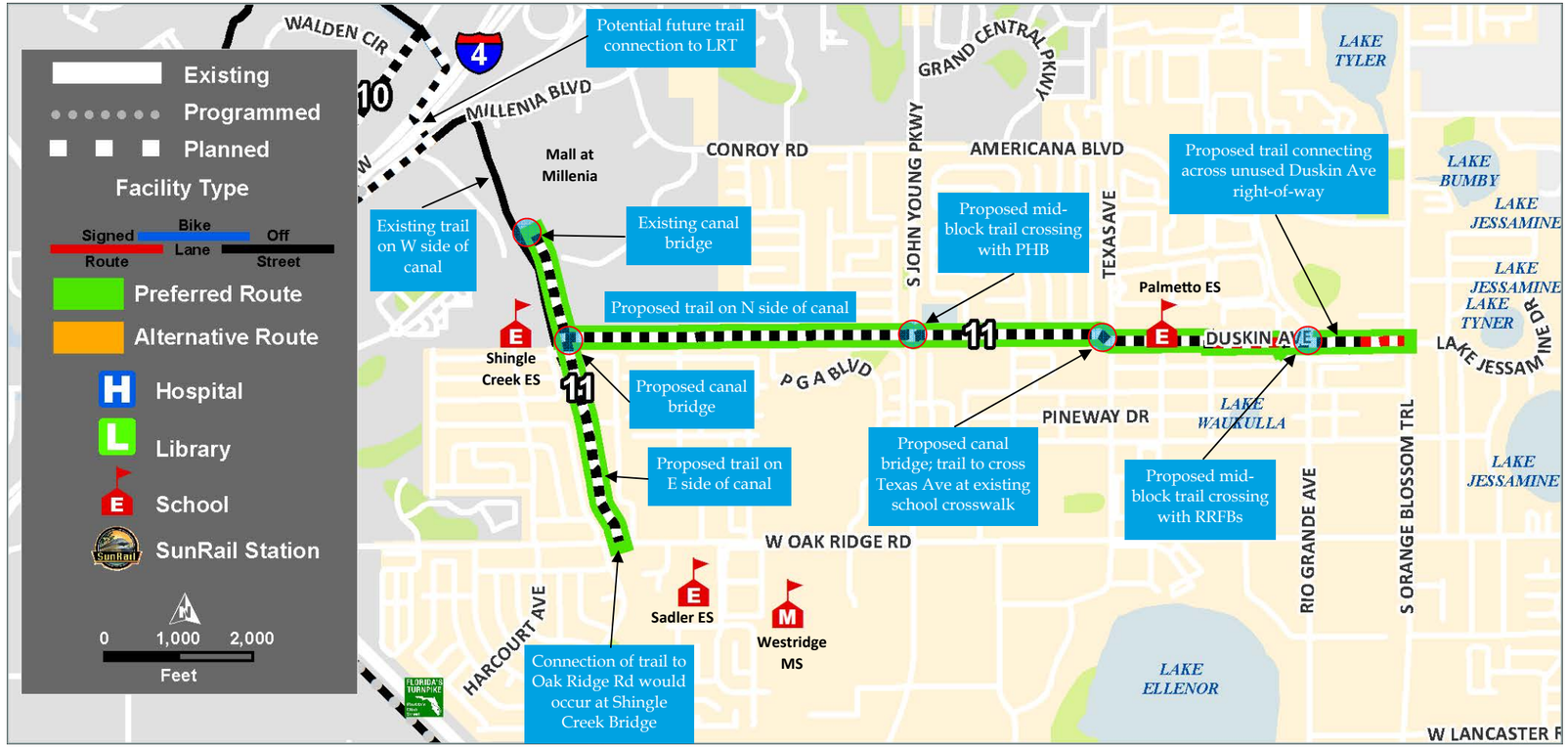
Opportunities:

- Extending the trail east along the canal to Texas Avenue would provide a connection to Palmetto Elementary School. Continuing the trail east along Duskin Avenue to Orange Blossom Trail (US 441) would connect the trail to a major commercial corridor. Portions of the trail along Duskin Avenue would be a signed route, although it would be located off street along the school frontage and within the unused roadway right-of-way between Marlo Avenue and Trotwood Drive with a midblock crossing at Rio Grande Avenue.
- The south trail connector to Oak Ridge Road provides the opportunity for an enhanced multimodal connection between the major employment center at the Mall at Millenia area and one of the potential BRT routes proposed along Oak Ridge Road in the ongoing Convention Center to Orlando International Airport Connector Refresh Alternatives Analysis Study.
- Previous planning for light rail transit (LRT) have included a potential station near the Mall of Millenia along I-4 which could connect to the area trails.

Issues:

- Segments of the canals are on property that is privately owned. Acquisition of easements will likely be needed.
- The midblock crossing of John Young Parkway, a high-speed, six-lane arterial, will require enhanced crossing treatments such as a pedestrian hybrid beacon (PHB). The closest existing traffic signals are approximately 1/2 mile away.
- The connection of the trail to Oak Ridge Road is within the limits of the existing bridge over Shingle Creek, making the structural connection more complicated and expensive. More detailed review of the connection will be needed.
- At least two trail bridges will be needed over canals along the proposed routes, depending on the side of the canal where the trail is placed. Some of the canal top banks are relatively narrow and placing a trail there could be difficult.
- The Texas Avenue crossing would tie into an existing school crossing, and the proposed crossing at Rio Grande Avenue would likely require RRFBs.

Figure 11-1: Millenia Trail Connectors Overview Map



ID # 12 | Conway East-West On-Street Connector

Preliminary Screening Level: LOW

Description

Route #12 would provide a 6.4-mile east-west on-street connection between downtown Orlando and the County's proposed Avalon Trail through the Conway area. The route would connect several public schools (five are within 1/4 mile) and parks, including Barber Park and a future park north of Lake George Elementary School. There are limited opportunities for an off-street trail through most of this area. The eastern portion, beginning at Semoran Boulevard and connecting to Barber Park, and proceeding west on Gatlin Avenue is recommended as an off-street trail. Moving northwest from Gatlin Avenue at Stillwell Drive, the on-street route continues mostly along neighborhood streets until it reaches Michigan Street where it is proposed to cross north at Mills Avenue. The route would continue west between Blankner School and Boone High School to and through Wadeview Park. Two alternative alignments are suggested if the school connection cannot be completed. Continuing west, the preferred route uses Grant Street to connect to SoDo and Division Avenue, which is proposed to have an adjacent off-street trail as part of an upcoming City reconstruction project. Connects to proposed route #9, which provides a north-south on-street route through the Orlando Health Campus to the Orlando Health/Amtrak SunRail Station.

Implementation

- Most of the project could be implemented with a series of route/wayfinding signs and pavement markings.
- Additional trail planning and design will be required for the Gatlin Avenue-Barber Park-Lake George Elementary area.
- Portions of the project outside the City limits would need to be coordinated with and implemented by Orange County.
- Coordination with Orange County Public Schools (OCPS) will be required near Boone High School and Blankner School, particularly related to access and safety concerns.
- Coordination with FDOT will be required to determine additional crossing features at Semoran Boulevard and Conway Road.

Cost

Preferred route: $2,440,000.

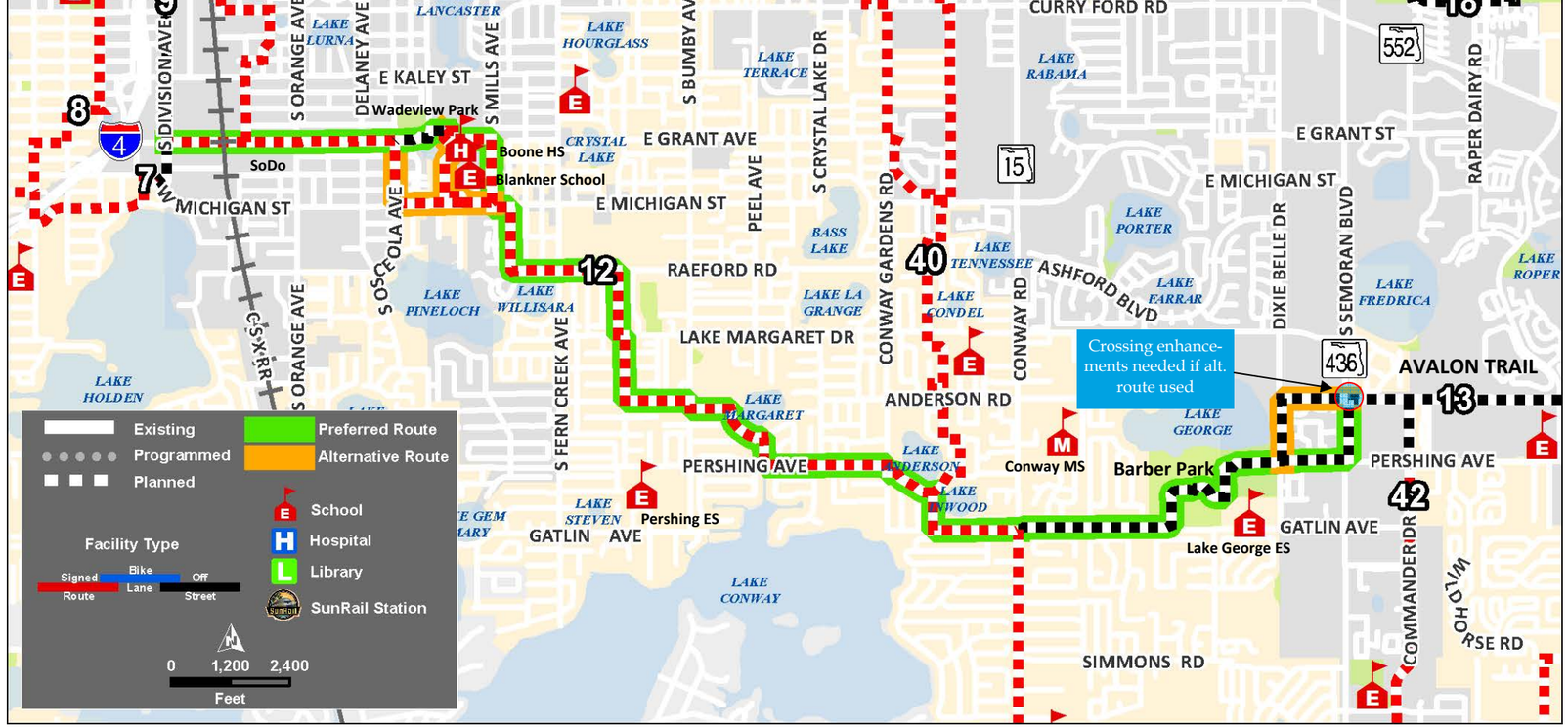
Opportunities:

- A full trail cross section can be implemented in Barber Park and the park proposed behind Lake George Elementary. Gatlin Avenue in this area also has a wide enough right-of-way to accommodate the recommended 10-foot wide trail, that could replace the sidewalk on the north side of the road.
- The route would connect to five schools. One example is a direct pedestrian access to Conway Middle School via Gatlin Place Circle, north of Gatlin Avenue.
- The development of the parkland behind Lake George Elementary provides the opportunity to include the trail connection with the park development.
- Citrus Square Apartments is owned by the City of Orlando Housing Authority. Hickey Drive could be used as a connection between Semoran Boulevard and Dixie Belle Drive or a trail could be considered on the north property line.
- The preferred route from the Avalon Trail runs south along Semoran Boulevard to the existing signal at Pershing Avenue. The alternative route would require a midblock crossing on Semoran Boulevard to continue west to Dixie Belle Drive.

Issues:

- Much of the route is either off-street or on neighborhood streets, but also includes some busier streets such as Semoran Boulevard, Pershing Avenue, Conway Gardens Road, portions of Grant Street, and the crossing of Michigan Street. Although some users may opt to use the sidewalks on these streets, additional signs and markings such as Bikes May Use Full Lane signs and sharrows should be considered where other on-street bike facilities are not present. Traffic calming measures may also be considered, particularly on local or collector streets near crossings.
- The preferred route at Blankner School / Boone High School would pass through school property to Wadeview Park. Potential alternative routes include Emma Street and skirt the edge of Lake Wade, or bypass the schools on Osceola Avenue.
- The proposed signalized crossing at Michigan Street and Mills Avenue is one block west of the route connection to Michigan Street at Mayer Street. A short trail connection (widened sidewalk) between Mayer Street and Mills Avenue would be preferred, but would require the relocation of utility poles between the existing sidewalk and curb.

Figure 12-1: Conway East-West On-Street Connector Overview Map



Description

The Vista East Trail could provide a 3.7-mile north-south connection on the eastern edge of the City between Orange County's proposed Avalon Trail and Orlando's Southeast Sector. North of Lee Vista Boulevard, two potential alignments have been identified. One uses the right-of-way for Econlockhatchee Trail and the other uses a Duke Energy power line corridor. The power line corridor would provide the most scenic route for the trail and would limit user exposure to traffic and is therefore the preferred route. South of Lee Vista Boulevard the trail is proposed to route through the Vista Park development, whose master plan includes provisions for trails. A roadway extension of Econlockahatchee Trail is also planned through the development. At the southern end of the development, the trail is proposed to merge back to the roadway right-of-way. The City's major thoroughfare plan calls for the roadway to be extended over SR 528 and includes a trail-width sidewalk to connect to the trail network south of SR 528 to Dowden Road.

Implementation

- Conduct a separate, more detailed preliminary engineering study to evaluate the two possible alignments. Public meetings with the adjacent homeowner's boards will be needed in order to gauge interest in providing an easement for the trail.
- Coordinate the implementation of the trail with the County's Avalon Trail to ensure maximum connectivity. Vista Park's development timetable is currently unknown (due to the issues related to being a former bombing range), making the northern connection to the Avalon Trail more likely to occur first.
- Construct the trail connection on Econlockhatchee Trail concurrently with the first two lanes of the future four lane roadway.
- Coordinate with Vista Park developers on trail alignment and with other property owners as needed to obtain easements.

Cost

Preferred route: $3,520,000. Assumes bridge over SR 528 to be included as part of Econlockhatchee Trail Extension project.

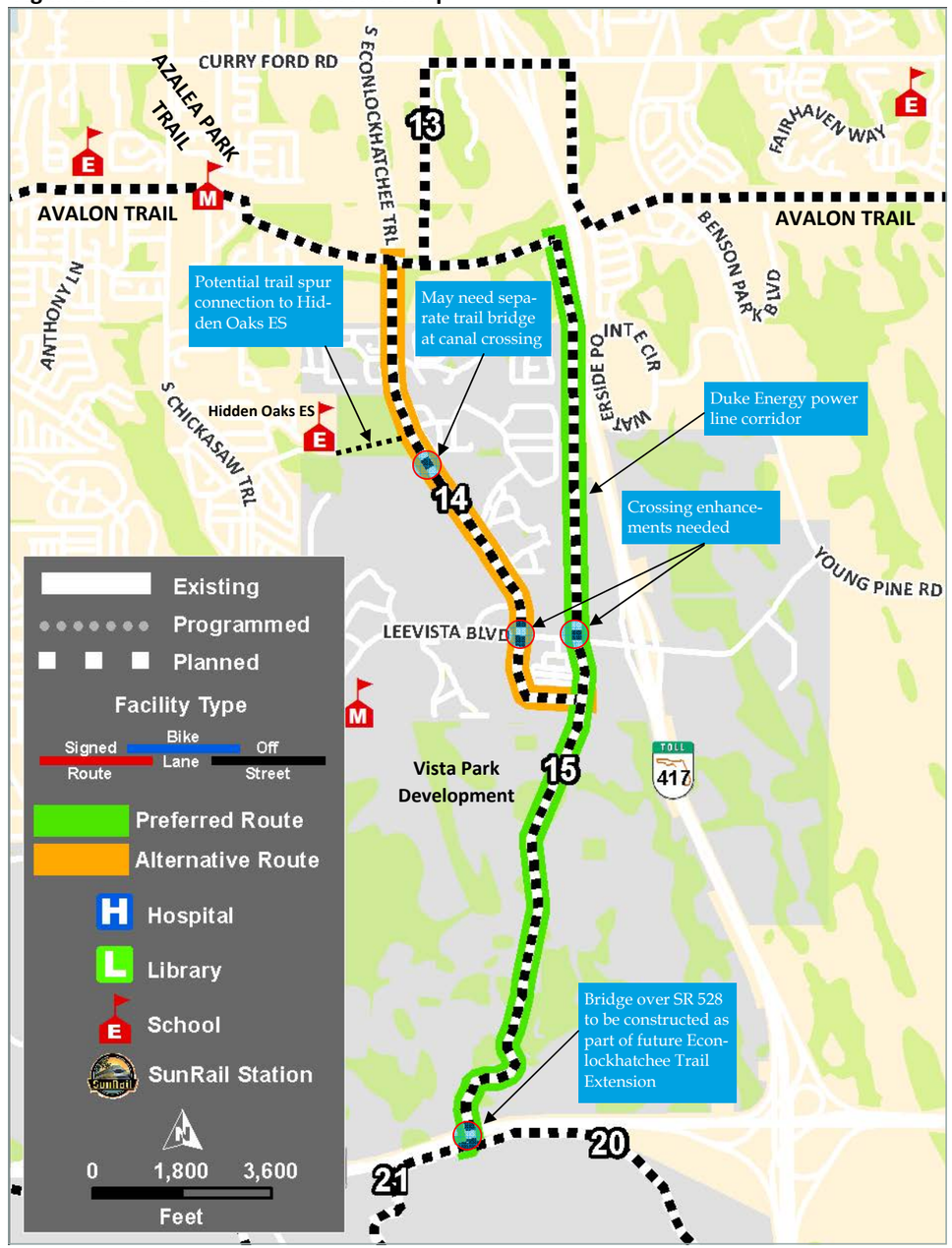
Opportunities:

- The north end of the trail is adjacent to the County's South Econ Park and Renaissance Senior Center.
- Approximately eight feet of right-of-way is available on the alternate route on Econlockhatchee Trail behind the west sidewalk for most of the northern project limits. Evaluate replacing the existing sidewalk with a ten foot trail that would meander around light poles and transformer boxes.
- Potential connection from the Econ Trail path to Hidden Oaks Elementary School through a parcel owned by the City.

Issues:

- The alignment along the power line corridor would involve coordination with and cooperation of Duke Energy.
- The power line corridor will require easements from homeowners associations in Crowntree Lakes and Tivoli Woods and coordination with the Art Avenue Apartments owner.
- The crossing of Lee Vista Boulevard could be challenging. If the alignment of the trail follows Econlockhatchee Trail, then the existing signal could be used, but additional treatments such as a leading pedestrian interval may be required to make the crossing safer. If the power line easement is used, the existing unsignalized intersection at Vista Square Avenue is not ideal since the turning movements and turn lanes make crossing at this location difficult for pedestrians. A midblock crossing east of Vista Square Avenue, with rectangular rapid flashing beacons (RRFBs) or a pedestrian hybrid beacon may be a solution.
- Alignment challenges are likely in areas adjacent to existing wetlands. The sidewalk and roadway is also elevated over existing grade which could result in some off-site drainage issues that will need to be considered during the trail design. The use of retaining walls and handrails may be required in some areas.
- The existing sidewalk crossing over the canal south of Tivoli Chase Drive is not wide enough to be considered a trail. A separate trail bridge may be needed.
- Vista Park is a former military bombing range. The entire site will need to be determined safe - a significant environmental issue to be considered.

Figure 14-1: Vista East Trail Overview Map



ID # 17 | Lake Underhill Path - SR 436 Bridge

Preliminary Screening Level: LOW

Description

Route #17 provides a continuation of the existing Lake Underhill Path beginning at Conway Road and continuing east to Yucatan Drive. The project consists of two primary components:

- Sidewalk enhancements as part of the Orlando Walks project (Phase 2) on the north side of Lake Underhill Road, including widening the existing sidewalk from Conway Road to Gaston Foster Road, and constructing new sidewalk from Mercado Avenue to SR 436/Semoran Boulevard.
- The construction of a pedestrian bridge over SR 436 which would provide a connection between Mercado Avenue and Yucatan Drive.

In the near term, a 0.8-mile signed and marked on-street route is proposed to connect between Mercado Avenue and Yucatan Drive by routing north through adjacent neighborhood streets with a crossing at the signalized intersection at SR 436 and Yew Drive, then connecting back to the Lake Underhill Path at the existing signal at Lake Underhill Road and Yucatan Drive.

Implementation

- Pursue funding opportunities for the pedestrian bridge over SR 436.
- Work with Orange County to designate the near-term neighborhood connection as an on-street route and mark crosswalks.

Cost

- $7.48 million for the long-term project on the preferred route to construct a steel plate girder bridge over SR 436 including the approaches which encompass the entire section between Mercado Avenue and Yucatan Drive.
- $60,000 for the alternative near term on-street route between Mercado Avenue and Yucatan Drive.

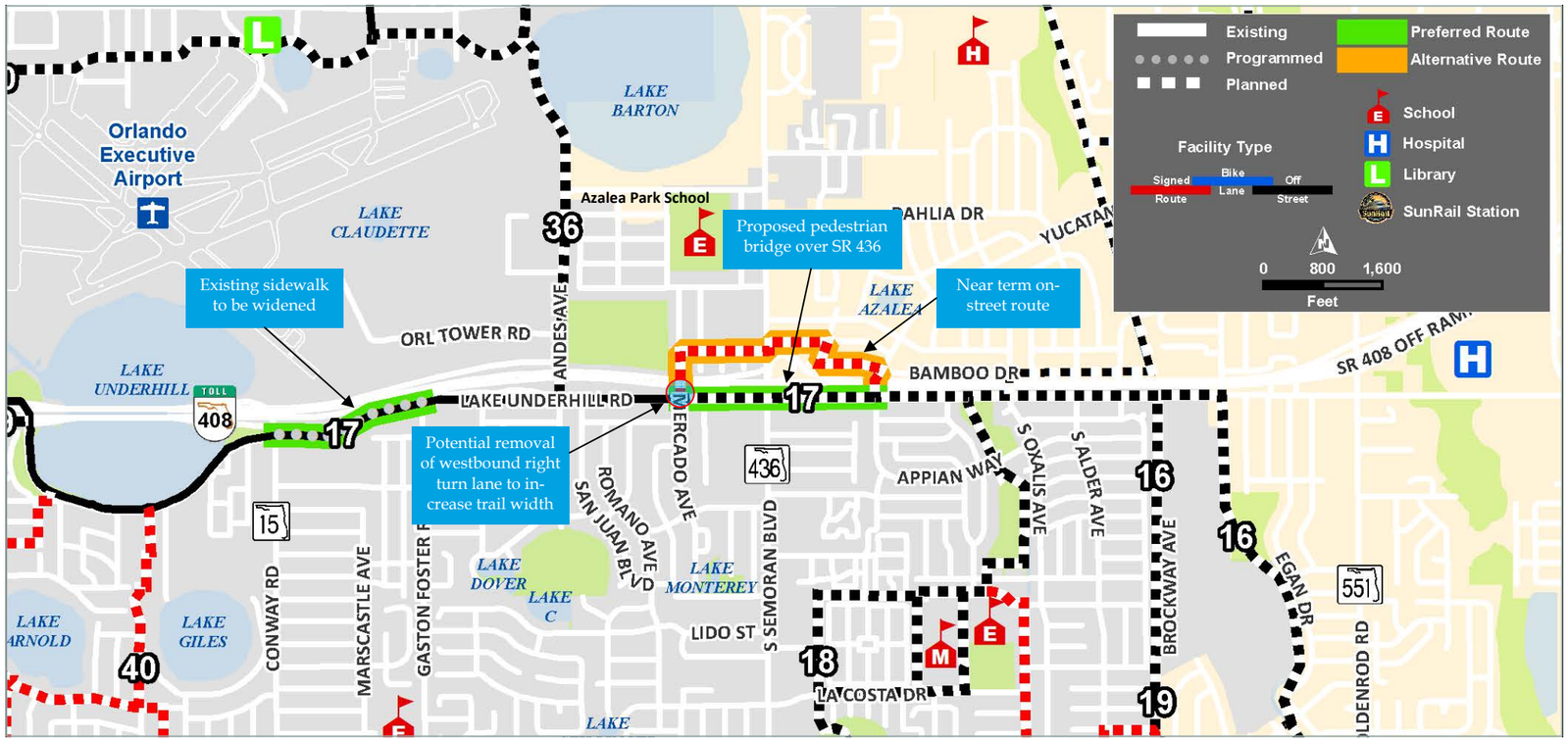
Opportunities:

- The Orlando Walks project (Phase 2) includes the widening of the existing sidewalk to 10 or 11 feet between Conway Road and Gaston Foster Road, as well as construction of new 8-foot wide sidewalk from Mercado Avenue to SR 436.
- Orlando Walks Phase 2 also includes construction of new sidewalk on the east side of Mercado Avenue (north of Lake Underhill Road) and the south side of Yew Drive (between Mercado Avenue and SR 436), which are part of the near term route.
- There is existing sidewalk on one side of Camellia Drive, Zinnia Drive, and Bamboo Drive providing a complete pedestrian connection to Yucatan Drive, which also has sidewalks connecting to a signalized crossing where the Lake Underhill Path is proposed to cross to the south side of Lake Underhill Road. Bicyclists not comfortable riding on local streets can opt to use the complete sidewalk connection on this route.
- Bike route signs, sharrows, and marked crosswalks at cross streets should be included along the near term route to provide enhanced awareness and wayfinding.
- The City has already completed a Feasibility Study for Lake Underhill Road Pedestrian Bridge (McLaren Engineering Group, May 2013). The study evaluated three bridge alternatives, determining that the steel plate girder alternative is preferred.

Issues:

- Due to conflicts with existing utilities and right-of-way limitations, the width of some sections of new sidewalk on Lake Underhill Road between Mercado Avenue and SR 436 is limited to just 5 feet. As part of the ultimate pedestrian bridge project, utilities should be relocated to allow for a minimum 10-foot wide path connecting to Mercado Avenue.
- The removal of the westbound right turn lane at the Lake Underhill Road/Mercado Avenue intersection should be considered, if needed, to provide a minimum trail width of 10 feet as part of the ultimate project.

Figure 17-1: Lake Underhill Path - SR 436 Bridge Overview Map



Description

The Engelwood Trail is located in the eastern portion of the City and extends for approximately 2.6 miles. The trail has the opportunity to become a focal point for the neighborhood by linking all of the important public uses within the neighborhood. The trail will be a spur from the Lake Underhill Path which will serve as a link for the Engelwood Neighborhood to Downtown Orlando. The Engelwood Trail will start at the intersection of Lake Underhill Road and Yucatan Drive and head east along Lake Underhill Road to the east side of Engelwood Park. The trail then turns south through the two parks known as Engelwood Park 1 and 2 to Stonewall Jackson Road. South of Stonewall Jackson Road there are three possible alignments for the trail.

- The western alignment heads west along Stonewall Jackson Road to the west side of Costa Del Sol, then turn south to the La Costa Urban Wetlands. This is the preferred route.
- The center alignment heads south within Orange County School Board Property related to Stonewall Jackson Middle School and/or Engelwood Elementary School and connects with the Engelwood Community Center. From the community center, the trail heads west along La Costa Drive to the La Costa Urban Wetlands. This route is an alternative if the preferred route is too challenging to implement. An alignment along the west side of the Stonewall Jackson Middle would likely be the least impactful to school operations and access.
- The eastern alignment continues east along Stonewall Jackson Road to Gelwood Avenue then heads south to Oxalis Avenue as an on-street route.

All three alignments connect and use the existing canal south of La Costa Drive and then head east along the drainage canal to Leroy Hoequist Park and then to Chickasaw Elementary School.

Implementation

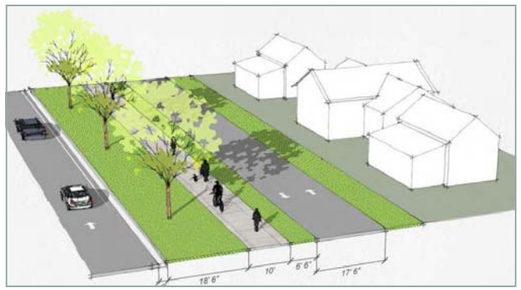
- The northern portion of the trail from Lake Underhill Road at Yucatan Drive to Stonewall Jackson Road may be able to be completed first, since it is anticipated to have minimal to no right-of-way coordination or environmental impacts.
- Trail alignments around the schools will involve the coordination and an agreement with the Orange County Public Schools (OCPS), particularly regarding access points and school safety concerns.
- Begin coordination regarding drainage easements early because the alignments that involve these easements could take more time due to the number of parcels involved.
- The area south of Wallace Drive is already being used as an official unpaved trail since a path from the Urban Wetlands terminates there, so upgrading it to a paved trail could be easier than the other drainage easement areas.
- Continue to pursue funding opportunities.

Cost

Preferred route: $2,990,000.



View of Engelwood Park north of Appian Way.



Potential typical section along Lake Underhill Road near Yucatan Drive, as depicted in the City of Orlando East/ West Trail Connector Design Project application to MetroPlan Orlando.

Opportunities/Issues

Route / Typical Section

Several typical section are recommended for this trail:

- A 12-foot wide trail is preferred along Lake Underhill Road. However, existing utility poles may result in the need to narrow the trail to 10 feet. Existing trees along Lake Underhill Road will need to be removed and replaced in order to have room for a path that meets the minimum trail width requirement of 10 feet.
- The trail should expand to 12 feet wide as it turns into Engelwood Park. It should be noted that Engelwood Park 2, which is located between Appian Way and Stonewall Jackson Road is undeveloped, so placing the trail through this area will have significant impacts to the maintenance and use of this park. Coordination will be needed with City Parks as the planning and design for this trail move forward.
- A minimum 12-foot wide trail is also recommended along Stonewall Jackson Road to accommodate heavy school-related pedestrian traffic.
- Using the preferred western alignment, a 12-foot trail would be used within the limits of the drainage easement on the west side of Costa Del Sol to minimize impacts.
- With the alternative center alignment, the 12-foot trail would continue south through school property and then be placed adjacent to La Costa Drive where the existing curb will need to be relocated in order to accommodate a trail. This alignment could be located on the west side of Stonewall Jackson Middle School, or potentially between Stonewall Jackson Middle School and Engelwood Elementary School and connecting to the west side of the Engelwood Neighborhood Center. Relocating the curbs on La Costa Drive would narrow the lanes from 15 feet to 11 feet, providing an additional 8 feet of space. The north side of the street currently has a 5-foot sidewalk with 3-foot grass buffer to the curb. The additional 8 feet of space would allow a 10-foot wide trail and 6-foot wide buffer, which could include planted trees.
- The eastern alignment would provide a signed route along local roads between Stonewall Jackson Road and the southern canal. Even if the trail is constructed on another route, consideration should be given to including this signed and marked route to provide enhanced accessibility to the trail. Wayfinding signage along this route should note the distance and directions to the trail.
- A handrail may be required were the three alignments are located adjacent to the canal.
- Most of the smaller trail segments could be constructed with asphalt, provided soil borings indicate a seasonal high water table of below two feet from the existing grade. In areas such as near Engelwood Park with nearby wetland areas, the seasonal high water table may be within two feet of grade. In cases such as this, six inch thick concrete should be used in order to increase stability.

Connections

The trail provides a connection between the Lake Underhill Path (which provides a connection to Downtown Orlando) and the Azalea Park Trail, planned by Orange County. It also provides direct connections to Engelwood Elementary School, Stonewall Jackson Middle School, Chickasaw Elementary School, Engelwood Park (Parks 1 & 2), the La Costa Urban Wetlands and Leroy Hoequist Park.

Drainage/Structures

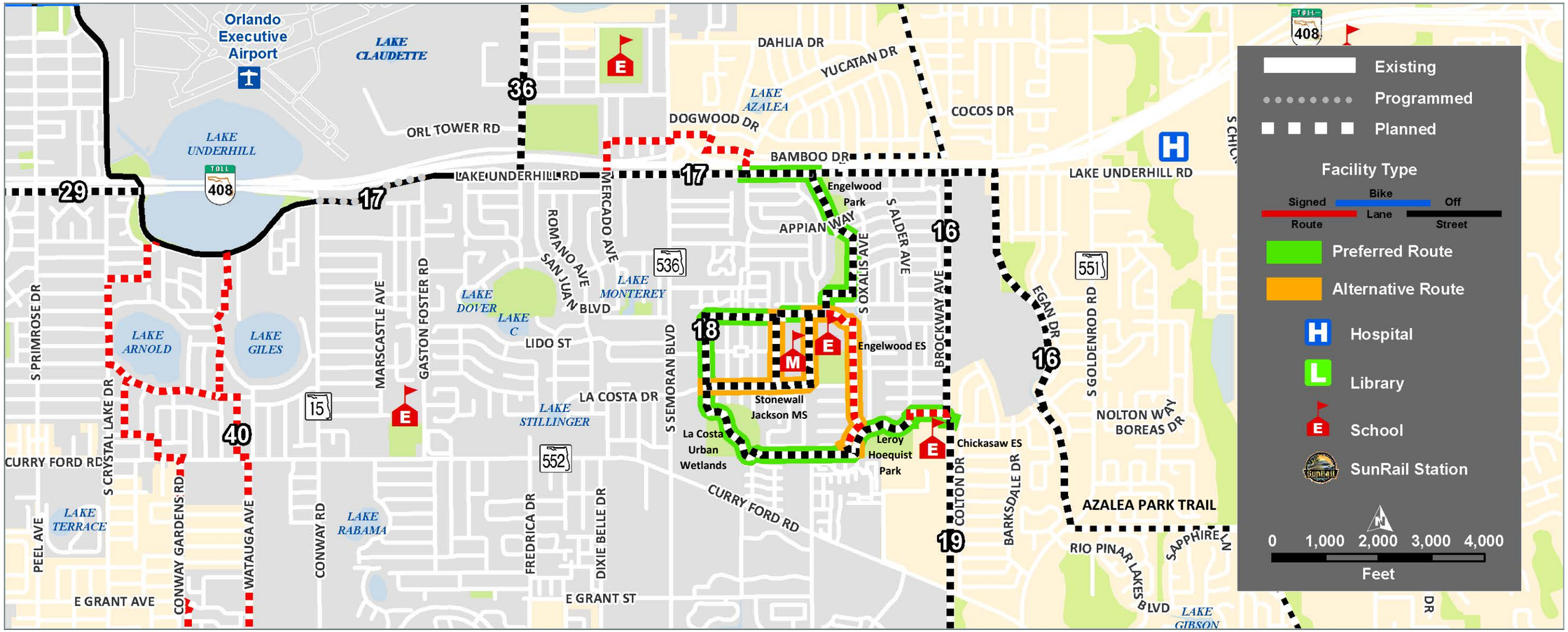
There are three main drainage impacts with this trail. The first is along the sections where the trail parallels existing canals. This occurs in two locations:

- Southern end of Engelwood Park
- East-west section between La Costa Urban Wetland and Chickasaw Elementary School

Along these sections the trail should be designed to minimize the impact to retain existing capacity. Another drainage issue is between Appian Way and Shenandoah Way where the trail crosses another canal. The required hydraulic capacity of this canal should be reviewed to determine if a pipe or box culvert is required.

The final drainage issue is potential impacts to dry retention ponds with the western alignment near Costa Del Sol. Depending on the final trail alignment and right of way coordination, these existing ponds may need to be reconstructed

Figure 18-1: Engelwood Trail Overview Map



Environmental

A preliminary environmental assessment of the route found the following:

- An Environmental Resource Permit would be required in accordance with Chapter 62-330.443, F.A.C. through St. Johns River Water Management District. (SJRWMD). Any improvements to existing bridges (e.g., within the La Costa Urban Wetlands) are also covered by the general permit for the SJRWMD.
- A U.S. Army Corps of Engineers permit is not anticipated due to use of single-span structures across the canal.
- Wetland mitigation is not anticipated.
- It is assumed that the trail alignment can be placed on the existing berms of ponds and canals. However, if it becomes necessary to modify an existing drainage treatment area, for the trail alignment, then a permit from the SJRWMD is anticipated to demonstrate that the capacity of the drainage system can be maintained.

Utilities

All alignments considered should have minimal impacts to existing utilities. Only minor adjustments are likely in the areas where the trail is within existing roadway rights-of-way.

Safety and Security

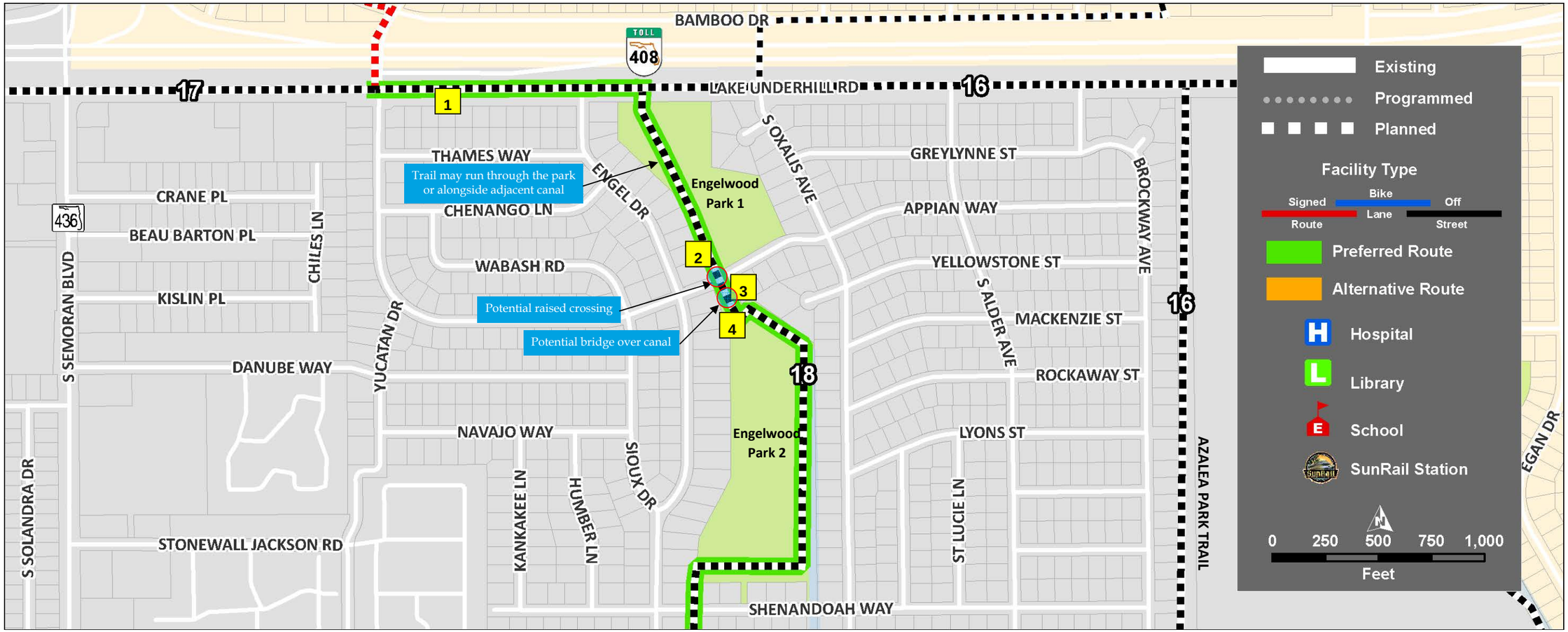
Special attention to Crime Prevention Through Environmental Design (CPTED) principles will be needed in areas where the trail is placed behind properties. It is important to activate as much of the trail as possible.

The only arterial roadway crossing proposed on this trail alignment is at Lake Underhill and Yucatan Drive, which is signalized. All other roadway crossings are on low speed, low volume neighborhood streets or neighborhood collectors. Nevertheless, raised speed tables could potentially be used for street crossings such as on Appian Way and La Costa Drive to provide a traffic calming effect.

Right-of-Way

Between Lake Underhill Road and Stonewall Jackson Road, the proposed alignment of the trail is located within roadway right-of-way or city owned park land. The alignment is also located on City-owned property within the La Costa Urban Wetlands and within Leroy Hoequist Park. The trail is proposed to be located adjacent to a drainage easement on the north and west sides of Costa Del Sol along the rear of 38 parcels from Stonewall Jackson Road to La Costa Drive. The alignment between the La Costa Urban Wetlands and Leroy Hoequist Park also involves the use of a drainage easement in the rear of 24 lots fronting Wallace Road. Additional title searches may be needed in these areas in order to determine if the easement allows the placement of a

Figure 18-2: Engelwood Trail Detailed Map, North Area





Existing 7-foot sidewalk on south side of Lake Underhill Road east of Yucatan Drive could be widened to provide a 10-foot trail, but may require relocating or replanting small trees.



Existing canal berm on the west side of Engelwood Park could be utilized for the trail.



View of Engelwood Park south of Appian Way.



Existing drainage canal between Appian Way and Shenandoah Way will require a trail crossing.

Figure 18-3: Engelwood Trail Detailed Map, South Area





Existing sidewalk along Stonewall Jackson Rd. looking west. Sidewalk to be widened with proposed trail.



Existing dry retention ponds within the limits of the western alignment between Stonewall Jackson Rd. and La Costa Dr.



Existing sidewalk in the La Costa Urban Wetland. Sidewalk to be considered for widening with the western or central alignment.



Canal between the La Costa Urban Wetland and Chickasaw Elementary. Trail to be placed on the left (north) side of the canal.

trail within it. It is likely that some acquisition may be needed in this area. The connection between La Costa Drive and the City owned La Costa Urban Wetlands involves use of the common area owned by the Candlewyck East Homeowners Association. The City and the public currently use this area to access the urban wetlands. However, a title search may reveal that additional acquisition is needed in order for the City to use Federal Funds to add an improved trail in this area.

Constructability

There are no major known constructability issues related to any of the alignments. Some of the key issues are:

- Replacing the existing sidewalk along Lake Underhill Road with a wider trail.
- Timing the construction of the trail along Stonewall Jackson Road during summer vacation.
- Reconstruction of the sidewalk along La Costa Drive to a trail may involve shifting the curb line and narrowing the roadway to two 11-foot lanes. Lane closures may be required during construction.

Traffic Impacts

None of the proposed trail alignments present any impacts to traffic circulation.

User Experience

The incorporation of four parks along this trail system increase the desirability of this proposed alignment. The trail will be a significant neighborhood asset and amenity. Most of the trail will be constructed under existing tree canopies to increase user comfort. Additionally, with minor improvements such as water fountains, maps, and benches, the existing parks can serve as trailheads. Engelwood Park 1 on Appian Way and La Costa Urban Wetlands on La Costa Drive, which already have parking facilities and are located close to arterial roadways, could be particularly good trailhead candidates.

ID # 23-24 | Narcoossee Road Trail

Preliminary Screening Level: LOW

Description

The Narcoossee Road Trail is proposed to provide a 3.4-mile north-south trail connection along Narcoosee Road between the existing Lake Nona Gas Easement Trail and the Lake Nona DRI planned trail network south of SR 417. With fewer cross streets and driveways, it is preferred to locate the trail on the west side of Narcoossee Road to limit the number of potential conflict points.

The trail is proposed to connect to several area destinations, including the Valencia College Lake Nona Campus, Lake Nona High School, and retail areas along Narcoossee Road at Moss Park Road. Northlake Park Community School is located just over one-half mile away from the proposed trail along the existing Gas Easement Trail. Other connecting or nearby roadways, such as Lake Nona Boulevard and Tavistock Lakes Boulevard have existing trails that connect to Narcoossee Road.

Implementation

- Coordinate with Lake Nona on connecting with their trail network south of SR 417, as well as related to potential easements along Narcoossee Road.
- Coordinate with the Central Florida Expressway Authority (CFX) on potential reconfiguration of the eastbound SR 417 off ramp free flow right turn at Narcoossee Road.
- Coordinate with OUC on pedestrian improvements at the rail crossing just north of SR 417, as well as potential trail conflicts with existing utility duct banks along Narcoossee Road.
- Include the trail construction as a required element for the ultimate 6-lane widening of Narcoossee Road north of SR 417.
- Consider construction of the trail along Narcoossee Road for a potential mobility strategy for area developers needing mitigation.

Cost

$3,980,000.

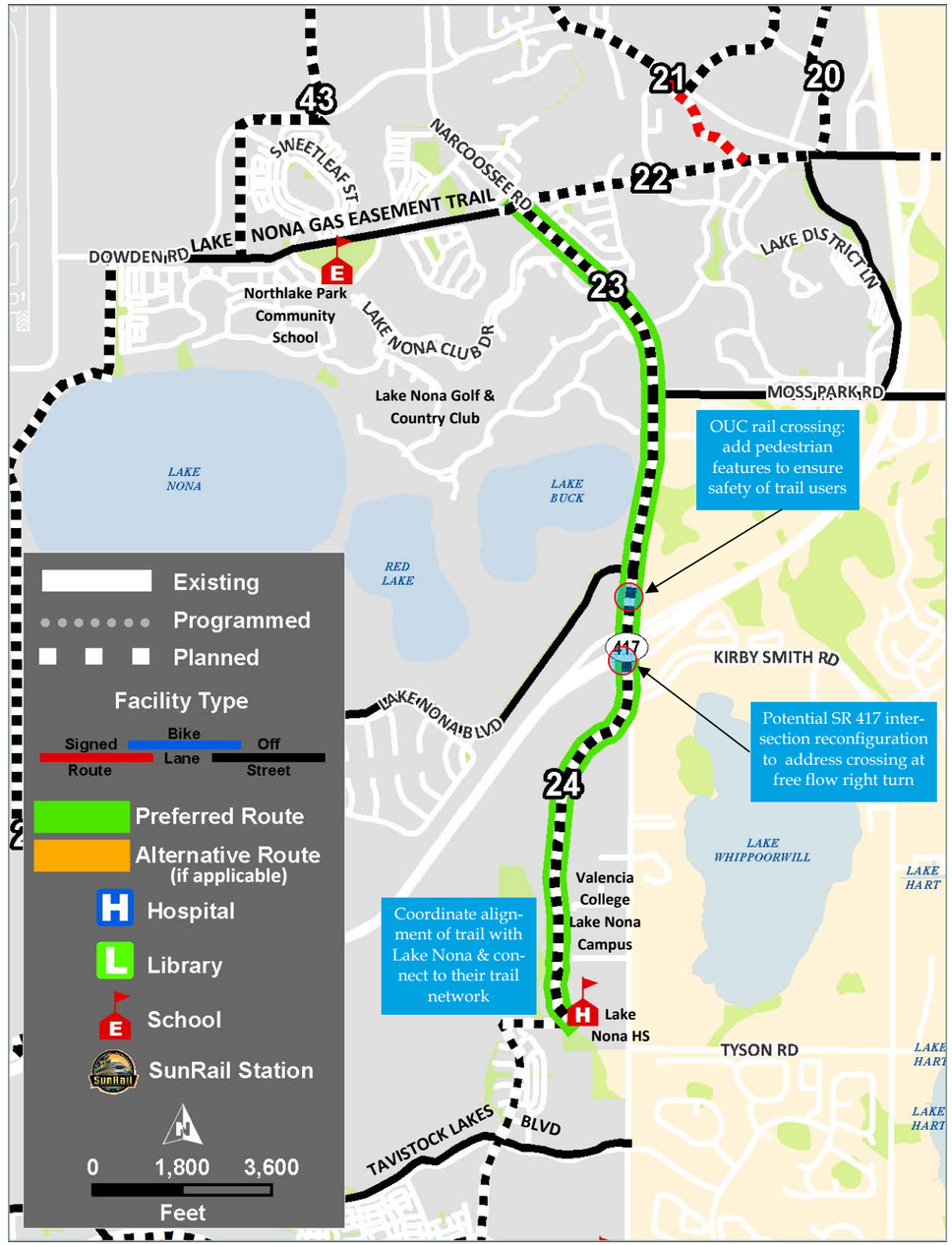
Opportunities:

- The Lake Nona DRI has an existing Master Trails Plan which includes a regional multi-use trail connection along the Nemours Parkway corridor connecting to Narcoossee Road between Lake Nona High School and Valencia College. The proposed trail would link to this connection, or alternatively could go around the west side of the Valencia parcel.
- There are fewer potential conflict points on the west side of Narcoossee Road, so it is preferred to locate the trail on that side. Replacing and widening the existing 5-foot sidewalk beyond the existing back of sidewalk appears feasible as the trees and light poles along the corridor are generally located between the sidewalks and back of curb.

Issues:

- The existing two-lane roadway connecting to Narcoossee Road between Lake Nona High School and Valencia College has 5-foot sidewalks on both sides, but does not currently include a minimum 10-foot wide trail. The City should confirm with Lake Nona that the trail connection shown in the Master Trails Plan will be constructed as planned.
- The crossing at the eastbound SR 417 off-ramp may need to be reconfigured to slow vehicles making a free flow right turn movement at the proposed trail crossing point.
- Just north of the SR 417 interchange, the existing Narcoossee Road sidewalk may need to be widened within the landscape strip due to the location of an existing cantilever sign structure and two signal strain poles outside the sidewalk. This would require the removal of at least two trees in the landscape buffer. Under the SR 417 bridge, the sidewalk would need to be widened towards the embankment wall, but may require the removal of an additional four trees.
- There are currently no railroad gates for the sidewalks on Narcoossee Road. In conjunction with the trail construction, it is recommended that railroad gates be placed along the trail in both directions to ensure trail user safety .
- The existing Narcoossee Road right-of-way line is generally at the back of sidewalk, so easements will be needed from Lake Nona to construct the widen and replace the existing sidewalk for a minimum 10-foot wide trail.

Figure 23-1: Narcoossee Road Trail Overview Map



Description

The Southport Trail would provide a 3.5-mile north-south connection on the west side of Orlando International Airport through the Southport neighborhood and generally parallel to Tradeport Drive. The trail would connect the proposed Boggy Creek Trail (ID #45) on the south to Daetwyler Drive at SR 528 on the north, which is the southern terminus of the proposed Conway North-South On-Street Connector (ID #40). The northern terminus has also been identified as a connection point to a potential east-west trail or route towards the west generally along the Sand Lake Road corridor (ID #39).

The trail would provide connections to the Southport Community Park, Durrance Elementary School, and to the proposed development site at Southport, which may include a mixed-use Town Center neighborhood. The proposed trail alignment would make use of publicly-owned land for its entire length including canal frontage, abandoned rail line easements, land within the Southport Community Park, and other City-owned parcels.

Implementation

- Complete the northern portion of the trail along Daetwyler Drive north of the ball fields by constructing a 10-foot wide sidewalk as part of the forthcoming City sidewalk project.
- Require that the trail be implemented as part of any redevelopment activity on the Southport site. Intersection reconfiguration on Daetwyler Drive at S. Frontage Road and McCoy Road is another potential developer mitigation requirement.
- Coordinate with GOAA on potential trail alignment and proximity to fuel farm site, as well as to obtain any necessary easements.
- Confirm easements for abandoned rail lines are available for trail usage.
- Coordinate potential additional connection to Durrance Elementary School with Orange County Public Schools.

Cost

$5,200,000.

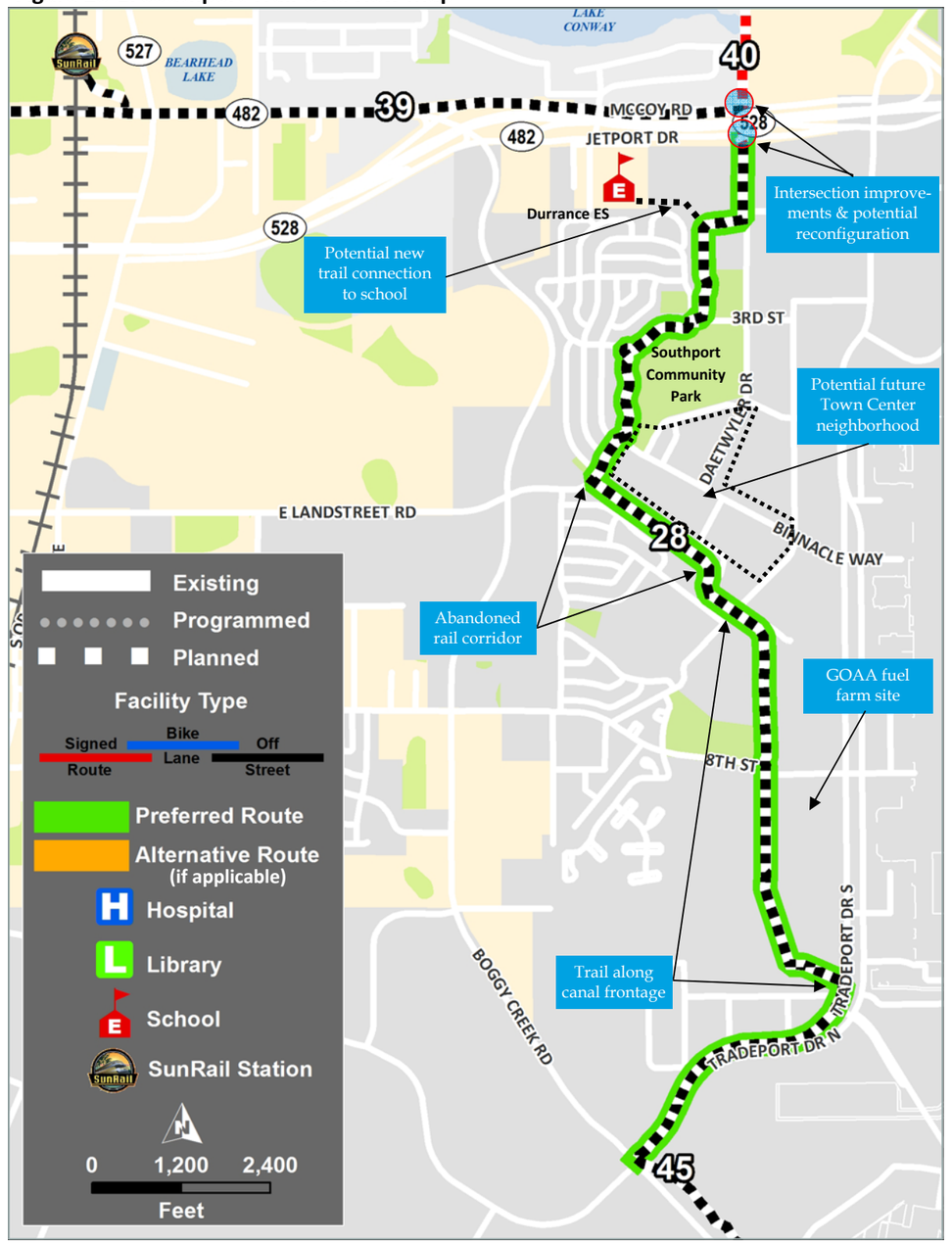
Opportunities:

- The City completed an Urban Design Vision Plan for the Southport neighborhood that identifies future potential development opportunities and improvements. The trail is proposed to align along the edge of a potential mixed-use Town Center neighborhood in the vicinity of Binnacle Way, Daetwyler Drive, and Landstreet Road, which would provide enhanced connectivity and multi-modal travel options.
- Although there is already a sidewalk connection from the neighborhood south of Durrance Elementary School, the trail may provide an additional opportunity to build a new connection to the school from the east.
- Existing rail lines that run parallel to and south of Binnacle Way have been abandoned, providing an opportunity to construct the trail on that alignment.
- The Southport Community Park has an existing system of 8-foot wide sidewalks. The facilities on the edges of the park could be replaced and widened to provide a full 12-foot wide trail.
- The City has plans to construct sidewalks on Daetwyler Drive in this area. Sidewalk on the west side of the road could be widened to 10 feet between Jetport Drive and the north edge of the northern ball fields and serve as the trail.

Issues:

- The proposed route would cross four collector or local streets (8th Street/Express Street, Avenue C, Binnacle Way, and 3rd Street). Appropriate crossing features will need to be determined.
- Coordination will be needed with GOAA, particularly to address any concerns over the proposed trail proximity to the existing fuel farm site at Tradeport Drive and 8th Street/ Express Street.
- Improvements will be needed to pedestrian signals, sidewalk/trail connectivity, and markings at the Daetwyler Drive intersections at S. Frontage Road and McCoy Road to provide a safe connection to the north. The intersections might also be considered for reconfiguration by removing existing right turn slip lanes and tightening corner radii to make them more bike and pedestrian friendly and slow traffic.

Figure 28-1: Southport Trail Overview Map



Description

The Downtown Connector Trail is envisioned to serve as a primary east-west spine within the City's trail network and will connect the Orlando Urban Trail (OUT) to the Lake Underhill Path. The trail corridor will also provide a key link into Downtown Orlando.

The preferred route, shown in Figure 29-1, is approximately 2.4 miles along Anderson Street from Boone Avenue to Lake Underhill Road. The use of Anderson Street is key to the success of this trail as it provides the most direct and convenient connection between several proposed trail corridors that converge in Downtown Orlando. It would connect the Downtown Central Trail along Division Avenue on the west with the Lake Underhill Path on the east. A portion of the Downtown Central Trail will serve as a key connection for the Orlando Urban Trail, linking the portions along Carter Street with Gertrude's Walk, and including the proposed improved Anderson Street bridge over I-4 and the Boone Avenue Extension. However, completion of portions of this trail may involve a long-term implementation due to significant space constraints in the downtown core between Orange Avenue and Delaney Avenue. The trail along the preferred route would be located primarily on the south side of Anderson Street to avoid conflicts with the on and off-ramps from SR 408. East of Bumby Avenue, the trail is proposed to shift to the north side of Anderson Street for the remaining length to connect to the Lake Underhill Path.

Due to the challenges associated with completing the preferred route in the downtown core, alternative on-street routes are proposed on both the north and south sides of SR 408 that would help facilitate east-west connections across the downtown core in the near term:

- The northern alternative includes one-way signed routes on Pine Street (westbound) and Church Street (eastbound) that connect from the OUT / Gertrude's Walk on the west to Eola Drive on the east; these routes are proposed to be one-way due to these streets being one-way between Orange and Rosalind Avenues. A signed route on Eola Drive connects the Church and Pine Street signed routes to Constitution Green, and provides a spur north to the City's flagship park, Lake Eola Park. A short section of trail is proposed along the north and east sides of Constitution Green Park connecting to the Summerlin Avenue / South Street intersection. Summerlin Avenue would function as a signed route to a short section of trail along the north side of SR 408 connecting to Mills Avenue and then south to Anderson Street, although there may be opportunities to widen the sidewalk on this section.
- The southern route provides a signed route from Sylvia Lane on the west through Greenwood Urban Wetlands Park to Anderson Street on the east. The route parallels Anderson Street and is proposed to follow America Street, West and South Lucerne Circle, Ponce de Leon Place, Lake Avenue, and Palmer Street to the south side of Greenwood Urban Wetlands Park. The portions of the route along Lake Lucerne and through Greenwood Urban Wetlands Park are proposed to improved as a trail.

Implementation

- Markings and route signage on several streets along the alternative routes are low cost items that could be implemented in the near term prior to implementation of the preferred route.
- Coordinate with the Central Florida Expressway Authority (CFX) to place a trail along within CFX property near Rosalind Avenue and alongside SR 408.
- Coordinate with FDOT regarding potential changes to the roadway cross section along Anderson Street on sections designated as SR 15.
- Complete portions of the preferred trail route as a component of scheduled maintenance projects on Anderson Street.
- Require the trail to be constructed as part of any new development or redevelopment proposed along Anderson Street, such as the CNL project on the southeast corner of Anderson Street and Orange Avenue.
- Verify preferred trail route, particularly in the Central Business District (e.g., on Anderson Street) as part of a forthcoming Downtown Orlando Bicycle Study.

Cost

Preferred route: $3,800,000. Northern alternative route (with eastern terminus at Anderson St/Mills Ave intersection): $790,000. Southern alternative route (with eastern terminus at Greenwood Urban Wetland/Anderson St): $1,040,000.

Opportunities/Issues

Route / Typical Section

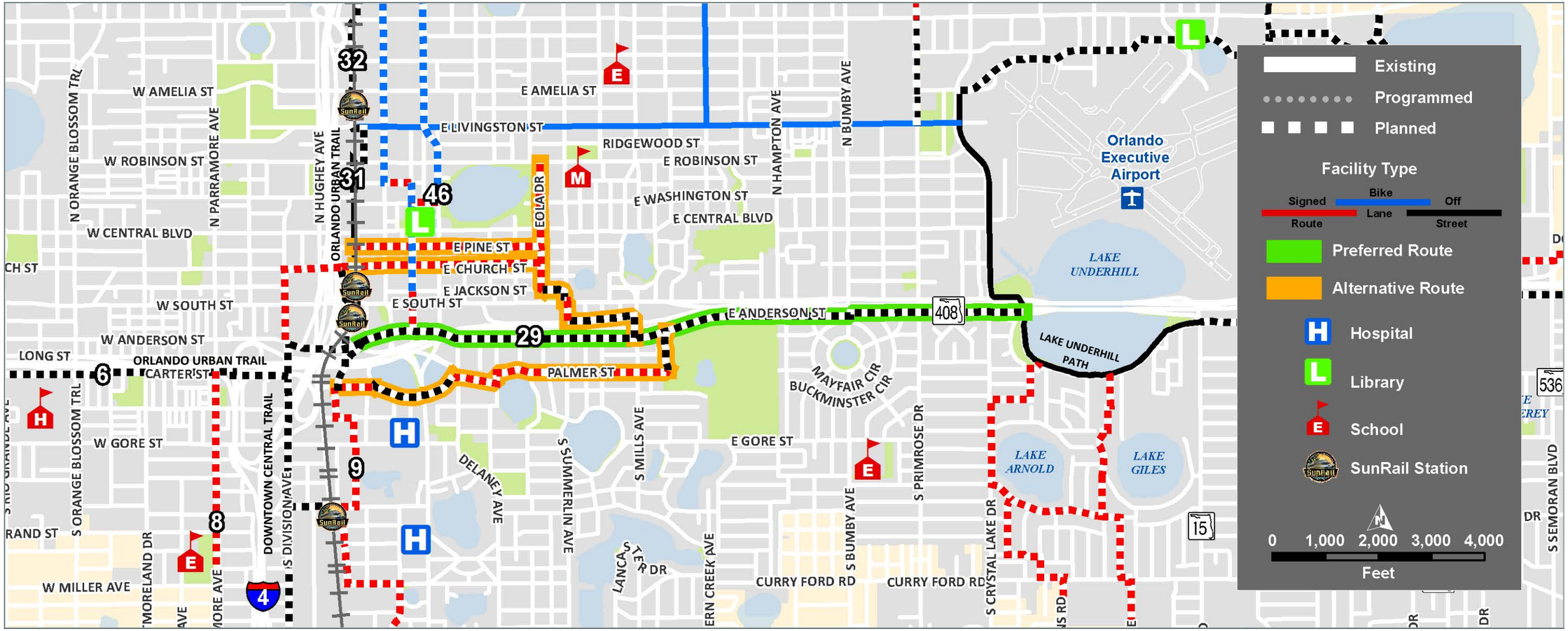
Preferred Route:

- Anderson Street between Boone Avenue and Orange Avenue generally provides 15 feet of space on the south side of the roadway. Portions have this width completely filled with sidewalk, but others have a narrower sidewalk set back from the edge of the roadway by a landscape strip. It is recommended to widen this sidewalk where necessary to get a minimum 10-foot wide trail (12-foot wide trail desirable).
- The most constrained section of the Anderson Street corridor is between Orange Avenue and Delaney Avenue. The building on the southwest corner of the Anderson Street / Magnolia Avenue intersection is located immediately adjacent to the street with no space or right-of-way for even a narrow sidewalk. The building is owned by the Charles E. Kramer Family. East of Magnolia Avenue, there is a 6-foot sidewalk at the back of curb in front of the Magnolia Towers which extends to the right-of-way line; expansion within this section would either require right-of-way acquisition or a trail easement. Further east, the Central Florida Expressway Authority (CFX) owns the frontage along Anderson Street to Delaney Avenue. There is some potential to incorporate a trail in this area but it would require coordination with CFX and likely modifications to the existing parking located underneath SR 408. Due to these constraints, it may be necessary to evaluate the feasibility of shifting the trail alignment in this area to the south of the properties that front Anderson Street in this area, potentially along or underneath SR 408.
- Anderson Street between Delaney Avenue and Mills Avenue is a residential section with numerous driveways. The sidewalk on the south side of the street is set back from the street by a landscape strip with width varying from 10 to 16 feet. The sidewalk is proposed to be widened within the landscape strip to accommodate a trail, but will need to address impacts to mature trees and utility poles located within the landscape strip.
- Anderson Street between Mills Avenue and Hampton Avenue is adjacent to the Greenwood Urban Wetlands Park and Greenwood Cemetery where there is an underutilized parking lane. Because the sidewalk in this section is only buffered by a narrow landscape strip, it is proposed to shift the curb in to use the space for the parking lane to accommodate the trail. A separated two-way bikeway could potentially be considered within the parking lane, but the space is likely too narrow - a minimum of 13-14 feet would be necessary to provide for two-way travel (a 5-foot lane in each direction) and 3-4 feet minimum separation between the bikeway and the adjacent travel lane (preferably with a physical curb barrier).
- East of Bumby Avenue, the trail is proposed to shift to the north side of Anderson Street adjacent to SR 408, where there is approximately 25 feet of width between the SR 408 structure and Anderson Street.

Northern Alternative Route:

- Using the northern alternative route (see Figures 29-2 and 29-5) would allow the major constraints found along the preferred route to be avoided in the near term until acceptable solutions could be found to permit the trail to connect through on Anderson Street. As shown on Figure 29-5, the northern alternative route proposes to locate a trail along the west side of Mills Avenue connecting between the north and south sides of SR 408. Without changes to the cross section, the trail could be at best 8 feet wide located at the back of curb, which would require widening the sidewalk within the landscape strip. However, the outside area between the curbs in the southbound direction is currently an unused lane with hatched striping. An evaluation would need to be completed to determine if this potential future lane (to accommodate two southbound left turn lanes at the Anderson Street intersection) could be recaptured for a wider trail connection (12 feet with landscape buffer).
- A proposed trail along the north side of SR 408 would be placed where there previously was a westbound on-ramp from Mills Avenue. This trail would require ramping up to and down from a landscape shelf, connecting to Summerlin Avenue.
- The east side of Summerlin Avenue between SR 408 and South Street currently has portions with a 6-foot sidewalk located at back of curb and a 5-foot sidewalk with a 3-foot landscape buffer. There appears to be sufficient right-of-way behind the sidewalk to allow it to be expanded to 10 feet. However, there would be impacts to utilities and trees, and a retaining wall would need to be constructed along with having driveways reconstructed.
- Another alternative shown on Figure 29-5 would be to omit the section of the proposed route along Mills Avenue and

Figure 29-1: Downtown Connector Trail Overview Map



the trail along the north side of SR 408. Instead the alternative route could just connect from Anderson Street along Summerlin Avenue to South Street and Constitution Green. While this is a simpler and more direct route, it has the potential constraints along the south side of Anderson Street between Summerlin Avenue and Mills Avenue related to widening the existing sidewalk and addressing impacts to mature trees and utility and light poles within the landscape strip. This simpler and more visible connection may be preferred to the short trail connection along the north side of SR 408 which is more isolated and would have less natural surveillance. Either side of Summerlin Avenue could be used for this connection. The impacts to the east side of the street were discussed above, and the west side recently had a new building constructed on the southwest corner of the South Street intersection which provided an 8-foot landscape buffer along a portion of the section. However, there are newly planted trees and light poles within the buffer which would require relocation if the west side were used as the trail connection.

<u>Southern Alternative Route:</u>

- The southern alternative route (see Figure 29-4) would ideally incorporate a trail along the south side of Lake Lucerne along West and South Lucerne Circle. In fact, a trail would be required west of Orange Avenue since the roadway is currently one-way eastbound. East of Orange Avenue, the route already includes an 8-foot wide pathway on the south side of the lake, but west of Orange Avenue, the pathway decreases to a 5 to 6-foot wide sidewalk. Each section would ideally be widened to a minimum of 10 feet to accommodate a trail. However, because this trail may only temporarily serve as the primary alignment of the Downtown Connector Trail, consideration may be given to leaving the 8-foot section east of Orange Avenue "as-is" with only signage improvements.
- Widening an existing 6-foot sidewalk through Greenwood Urban Wetland to a minimum 10-foot width between Palmer Street and Anderson Street would be needed to make the path suitable for a trail connection.

Connections

The Downtown Connector Trail will be the primary east-west spine within the City's trail network and will connect the OUT to the Lake Underhill Path. In addition to serving as a primary bicycle connection into and out of Downtown Orlando and its high density residential districts, regional employment centers, and various cultural and entertainment venues, the trail corridor will also link numerous parks; the trail will connect directly or within one-quarter mile to Lake Eola Park, Constitution Green, Al Coith Park, Lake Cherokee Park, Lake Lawsona Park, Langford Park, Greenwood Urban Wetlands Park, Lake Como Park, Cherry Tree Park, Colonel Joe Kittinger Park, and Lake Underhill Park.

Figure 29-2: Downtown Connector Trail Detailed Map 1





Proposed westbound signed bike route on Pine Street (shown here just east of Magnolia Ave looking west) along the northern alternative route.



Proposed eastbound signed bike route on Church Street (shown here just west of Rosalind Ave looking east) along the northern alternative route.

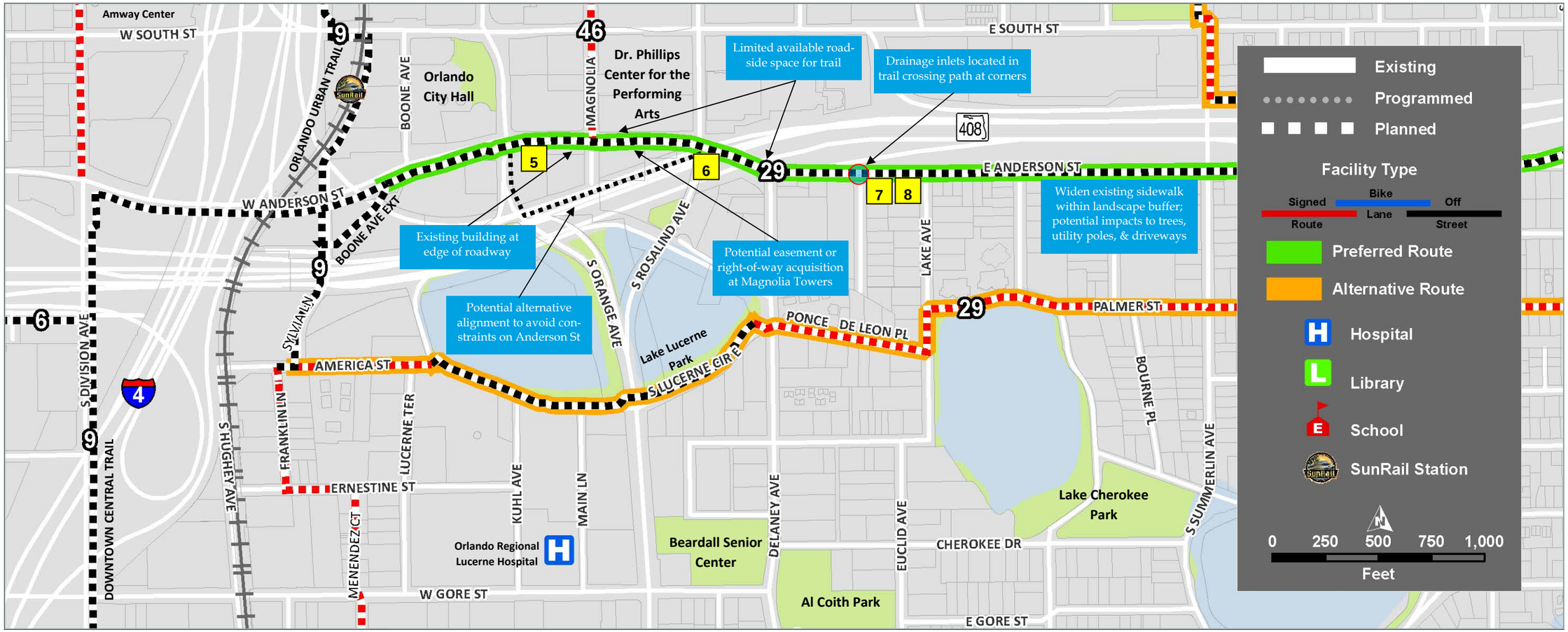


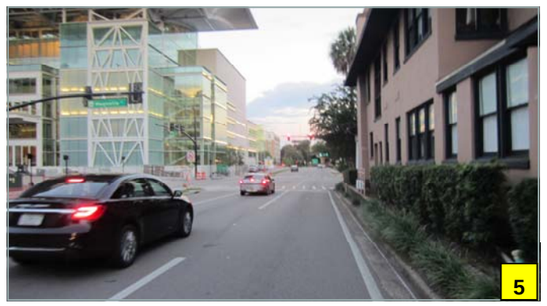
The northern side of Constitution Green Park along Jackson Street is proposed to have a section of trail constructed as part of the northern alternative route.



Summerlin Ave from South St to SR 408 connects the northern alternative route between Constitution Green and a trail segment proposed on the north side of SR 408. Evaluate widening the sidewalk to accommodate a trail.

Figure 29-3: Downtown Connector Trail Detailed Map 2a





The most significant obstacle to providing the trail along Anderson St in Downtown Orlando is an existing building located immediately adjacent to the road at Magnolia Ave.



The available width on Anderson St just east of Rosalind Ave is constrained by the roadway, the SR 408 bridge piers, and an adjacent parking lot. Without reconfiguring the section, there is only 8 feet of width available to support a trail.

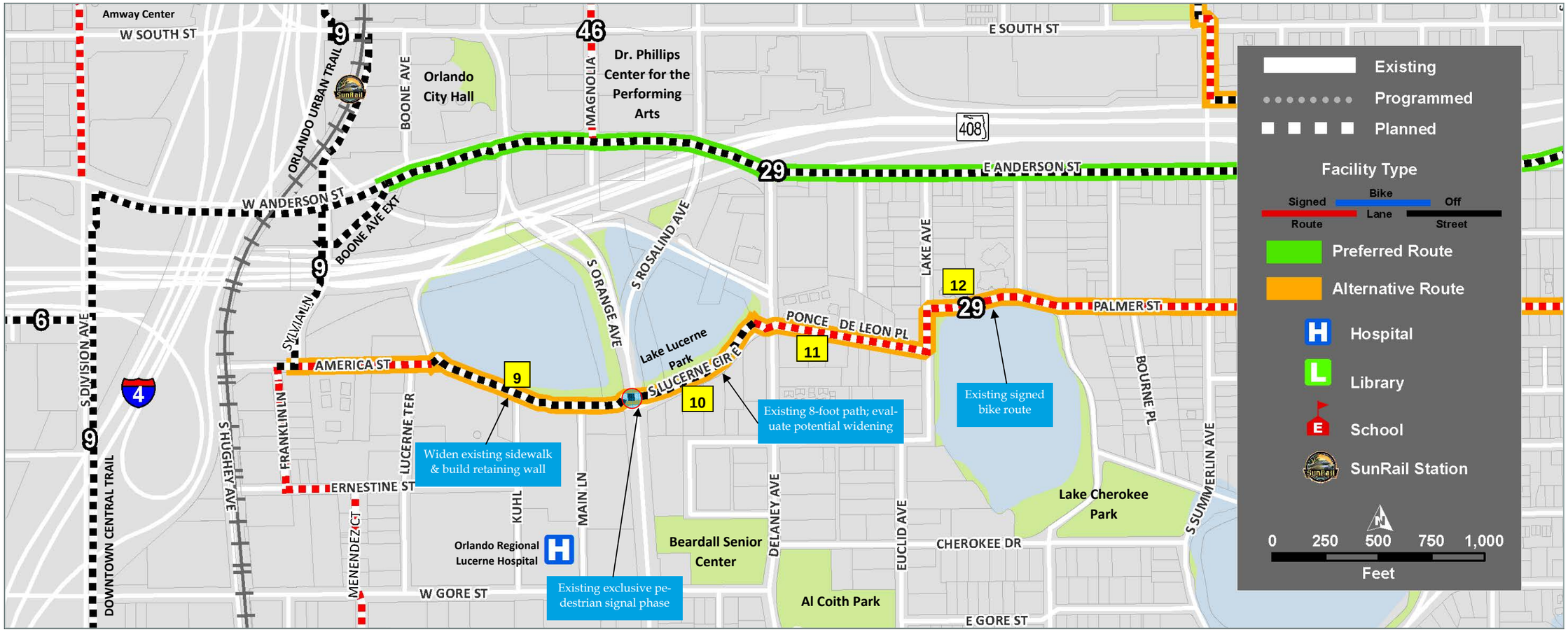


A drainage inlet at the Anderson St / Margaret Ct intersection is located where the preferred trail crossing and curb ramp would be.



A trail along Anderson St between Delaney Ave and Mills Ave would have multiple challenges, such as the numerous residential driveways, mature trees, and utilities located within the landscape buffer.

Figure 29-4: Downtown Connector Trail Detailed Map 2b





A trail along the south side of Lake Lucerne would be a nice area amenity, but would require construction of a retaining wall, light pole relocation, and removal or relocation of trees.



East of Orange Ave, there is an existing 8-foot pathway on the south side of Lake Lucerne, which would ideally be widened to 10 feet to support a trail.

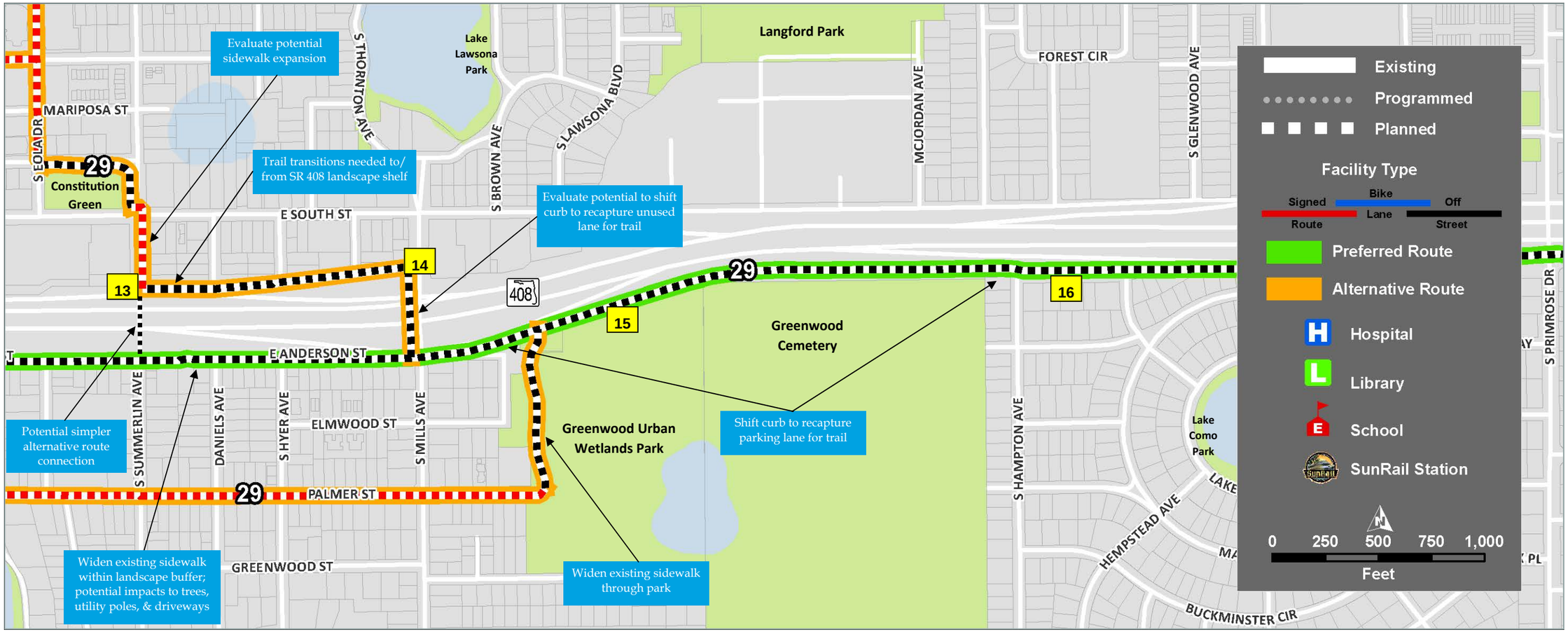


Proposed signed bike route on Ponce de Leon Place between Delaney Ave and Lake Ave along the southern alternative route.



Palmer St east of Lake Ave is already designated as a bicycle route today. This street provides a close and convenient parallel route to Anderson Street allowing the southern alternative route to bypass constraints located along Anderson St.

Figure 29-5: Downtown Connector Trail Detailed Map 3





The connecting point from the proposed northern alternative route trail on the north side of SR 408 to Summerlin Ave would require ramping down from a landscape shelf.



The proposed trail route on the north side of SR 408 would use land owned by CFX that was previously an on-ramp to SR 408.

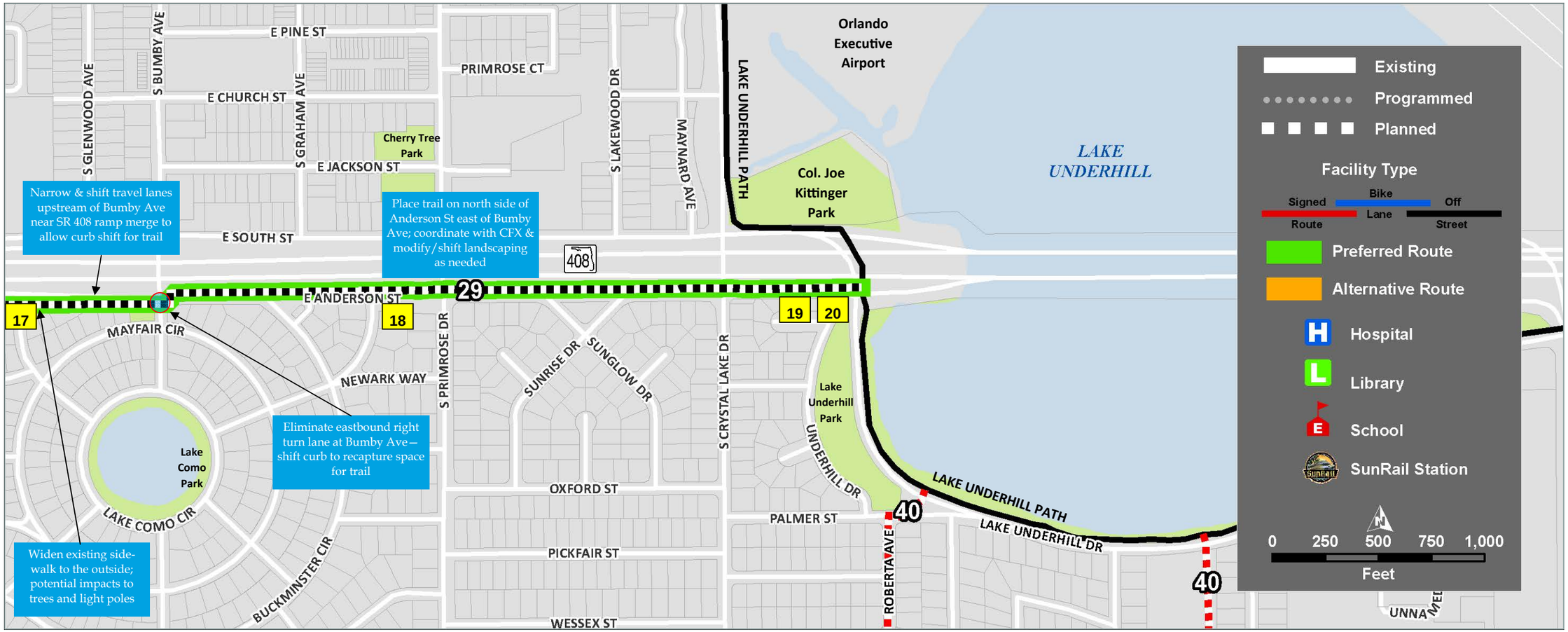


A trail could be accommodated alongside Greenwood Urban Wetlands Park by shifting the curb line and recapturing the substantially underutilized on-street parking lane.



A trail could be accommodated east of Hampton Ave by widening the sidewalk and relocating some light poles.

Figure 29-6: Downtown Connector Trail Detailed Map 4





Looking east on Anderson St towards Bumby Ave. As shown, some trees and light poles will need to be removed or relocated to widen the sidewalk to trail width.



A bicyclist on the sidewalk on the south side of Anderson St just west of Primrose Dr. The proposed trail alignment at this location is on the north side of the street which will minimize conflicts with driveways, side streets, and LYNX bus stops.



Looking west along the north side of Anderson St towards Crystal Lake Dr. There is sufficient space to locate a standard width trail, although some landscaping may need to be modified or relocated.



Looking east along the north side of Anderson St towards Lake Underhill Dr. As shown, landscaping in this area would need to be reconfigured to accommodate the trail.

Drainage/Structures

- The intersection of Anderson Street at Margaret Court has drainage inlets in the southeast and southwest corners that are on the direct sidewalk path, requiring the sidewalk to divert to around the inlets to curb ramps (see Figure 29-3, photo #7). Modifications would be needed to the drainage at this corner to accommodate a trail along the south side of Anderson St to avoid the currently required diversion.
- A section of trail (which would be widened sidewalk) along the south side of Anderson Street just east of Mills Avenue would require a retaining wall due to the elevation change to the adjacent one-way frontage road.



A retaining wall would be needed if the sidewalk were widened on Anderson St near Greenwood Urban Wetlands.

- The proposed trail segment north of SR 408 between Summerlin Avenue and Mills Avenue on northern alternative alignment would require ramping up to and down from a landscaping shelf.
- If the sidewalk were widened on the east side of Summerlin Avenue between SR 408 and South Street, a small retaining wall would be needed at the back of sidewalk.
- Portions of Anderson Street between Mills Avenue and Bumby Avenue in which it is proposed to shift the existing curbs would need to have new inlets connected into the existing drainage system.

Environmental

Because the trail is proposed to be located primarily within existing roadway right-of-way or as signed routes along local streets, environmental impacts are anticipated to be limited. Potential impacts would be limited to locations where existing trees and landscaping would need to be relocated or removed such as along the Anderson Street corridor, along Summerlin Avenue, or where sidewalk expansion and needed retaining wall construction along South/West Lake Lucerne Circle may impact Lake Lucerne.

Utilities

There are several locations along both the preferred and alternative routes that have the potential need for utility pole relocation or undergrounding, including sections of Anderson Street, Summerlin Avenue, and South and West Lucerne Circle.

Safety & Security

- The proposed trail on the northern alternative route along the north side of SR 408 would be located in a somewhat secluded area with little natural surveillance and would represent a potential concern related to personal security. With the proposed corridor intending to serve as a primary east-west trail connection, activating this area may provide for more eyes on the route. However, if this route is ultimately used, the design of this area should be coordinated closely with the Orlando Police Department staff who have Crime Prevention Through Environmental Design (CPTED) training.
- The preferred trail corridor has a large number of driveway and side street crossings, each representing a potential trail conflict point. Care needs to be taken to mitigate these potential conflicts to the degree possible during design, including maximizing sight distance, redesigning side streets to minimize turning speeds, making the crossing points visible and prominent, and using signage to highlight the trail crossing at side streets (this is particularly important since Anderson Street is a one-way street and drivers may not be looking for trail users traveling in the opposite direction of motor vehicle traffic). At signalized intersection crossings, measures such as prohibiting right turns on red and leading pedestrian intervals may be used to enhance crossings for trail users.

Right-of-Way

- The proposed route has minimal right-of-way impacts as it primarily makes use of existing street right-of-way and publicly owned property.
- Several portions of the proposed trail would need to coordinate use of CFX controlled right-of-way. Key locations include the SR 408 bridges over Anderson Street and the parking located beneath, the area of the former westbound on-ramp from Mills Avenue to SR 408, and the immediate south side of SR 408 between Bumby Avenue and Lake Underhill Road.
- A trail easement or narrow right-of-way acquisition may be necessary adjacent to the Magnolia Towers on Anderson Street just west of Rosalind Avenue.
- The property on the southeast corner at Anderson Street and Mills Avenue has a picket fence placed at the back of a 5-foot sidewalk; however the recorded property line is set back between 13 and 22 feet behind the back of sidewalk. Therefore, no right-of-way acquisition would be required in order to widen the sidewalk to accommodate a 10 or 12-foot wide trail, although the existing fence would need to be relocated.
- Constitution Green is not owned by the City of Orlando, so the trail proposed along the edge of the park would require right-of-way or an easement.

Constructability

There are no major known constructability issues related to any of the alignments. One key issue will be replacing existing sidewalks with a wider trail. In these areas, the wider trail may consume the full width of the existing landscape strip, placing the trail at back of curb. Utility impacts will need to be considered and changes to driveway and cross street curb ramps will be needed. Other locations that may add some level of complexity to the project include the following:

- On the northern alternative route, it would be required to ramp up to and down from an existing landscape shelf for the trail on the north side of SR 408.
- Use of retaining walls along the south side of Lake Lucerne west of Orange Avenue if the existing sidewalk is widened.

Traffic Impacts

- The west approach at the Anderson Street / Bumby Avenue intersection has a left turn lane, two through lanes, and a right turn lane. An evaluation should be completed to determine if the right turn lane can be removed in order to recapture the space for the trail alignment. This would reduce the capacity of the intersection but would benefit trail users by generally providing slower vehicle operating speeds near the intersection. The right-of-way line on the approach to the intersection is located at the back of the 5-foot sidewalk. The 3-foot wide landscape strip could be captured without moving the roadway curbs, but this would only result in a narrow 8-foot trail at the back of curb. Shifting the curb to capture the right turn lane would allow for a 12-foot trail with 6-foot landscape strip.
- If the eastbound right turn lane at Bumby Avenue can be eliminated, the eastbound travel lanes should be narrowed and shifted earlier upstream from the intersection to allow the curbing to be shifted in order to provide a minimum 10-foot trail without needing to acquire right-of-way. Near the point where the SR 408 off-ramp merges, the two eastbound Anderson Street lanes use a total width of about 33 feet; if this space were narrowed to 24 feet, there would be 17 feet of space available on the south side of the roadway to the right-of-way line, which would allow a 12-foot trail with 5-foot landscape strip.
- The trail crossing of Orange Avenue on the southern alternative route would benefit from the existing exclusive pedestrian signal phase at the Orange Avenue / South Lucerne Circle intersection.
- Portions of the proposed alternative route, such as Palmer Street are already designated as a bike route and include several bike route signs, some with arrows at turning points. However, the signs are inconsistent - some are the older Orlando Bikeway signs, others are standard green MUTCD bike route signs. It is recommended that all route signs be consistent and that wayfinding information such as destinations and distances be added. Along with the route/wayfinding signs, the use of shared lane markings is recommended for the lengths of all signed routes implemented.

User Experience

- There are several potential trailhead locations at parks along the proposed route including Lake Eola Park, Greenwood Urban Wetlands Park, and Colonel Joe Kittinger Park.
- The opportunity to link several parks together with a trail would allow for a potential self-guided City parks tour with a series of interpretive exhibits at various parks along the route with information that may range from local or neighborhood history and culture to information about native plant species.

Description

The programmed construction of the Orlando Urban Trail (OUT) bridge over SR 50/Colonial Drive will leave a gap of approximately 0.4 mile in the OUT between the northern bridge terminus and the existing western terminus of the Dinky Line Trail segment at Magnolia Avenue, just south of Orange Avenue and the railroad tracks owned by FDOT. The OUT section described herein would span this key trail gap and provide a complete trail connection into the heart of Downtown Orlando. The completion of this gap will provide access to destinations within the immediate vicinity such as Senator Beth Johnson Park, Gaston Edwards Park, Marks Street Senior Center, and Lake Highland Preparatory School and its ancillary Mark O'Meara Family Sports Complex. Closing this gap will also provide access to numerous downtown destinations and help to support general bicycle mobility within downtown, which is particularly important given the forthcoming implementation of Orlando's bike share program.

The OUT Colonial Overpass project will bring the trail back down to grade after turning east within an easement on the north side of the Steelhouse Orlando Apartments. The trail will connect to Orange Avenue just south of Park Lake Street. However, the preferred ultimate trail route to the north of the overpass would have the trail continue alongside the railroad all the way to Magnolia Avenue where a crossing at Weber Street would provide the connection to the Dinky Line section of the OUT. It may be challenging to gain approvals to locate the trail alongside the tracks within the railroad right-of-way. There is no available right-of-way along the corridor in which to locate the trail, and there may be potential liability concerns due to the limited lateral space adjacent to the tracks. However, the rail frontage alignment provides the most direct and simple connection and there are numerous successful examples across the country of trails located immediately adjacent to active rail lines, including the Gertrude's Walk section of the OUT less than a mile away from this proposed segment.

There are two alternative trail alignments for this corridor:

- The available space and right-of-way alongside the railroad is tightest between Marks Street and Orange Avenue, therefore an alternative alignment makes use of widened sidewalks on those two streets to bypass a short section of railroad frontage. This alignment also allows the trail to cross Orange Avenue at the existing Marks Street signal, rather than require a new traffic signal adjacent to the Orange Avenue rail crossing.
- In the event that it becomes infeasible to align the trail alongside the railroad, a second alternate alignment is proposed that would connect the trail via Park Lake Street to Magnolia Avenue, then proceed north on Magnolia Avenue for about one-quarter mile to the existing Dinky Line Trail terminus. The route on this alignment is proposed to use the south side of Park Lake Street to avoid the trail crossing an existing parking garage entrance and exit. The trail would then be located on the west side of Magnolia Avenue from Park Lake Street to Marks Street, then cross to the east side at the existing Marks Street signal and continue north to the existing Dinky Line Trail. This alternative route might also be considered in tandem with the preferred route to provide route redundancy particularly at night.

Implementation

- Coordination with FDOT and CSX to obtain approvals for locating the trail within the railroad right-of-way.
- If the Park Lake Street / Magnolia Avenue alternative alignment is pursued, coordination will be needed with property owners along the corridor, particularly as related to potential on-street parking losses.
- Look for opportunities to leverage investment in the adjacent I-4 Ultimate project and OUT Colonial Drive Overpass project to complete this trail gap concurrently with those projects.
- Coordinate trail connection and improvements with other area projects, including the potential Downtown Urban Bikeways (ID #46), as well as the proposed North LYMMO Corridor expansion project which is proposing to use exclusive bus lanes on Orange and Magnolia Avenues through the study area for this trail corridor. It is recommended to conduct a separate, more detailed downtown bike study to determine the preferred alternative for all bicycle-related infrastructure.

Cost

$2,900,000 for the preferred route.

$1,970,000 for the Marks Street - Orange Avenue Alternative Route.

$810,000 for the Park Lake Street - Magnolia Avenue Alternative Route.

Opportunities/Issues

Typical Section

As part of Orlando's signature north-south trail spine, it is preferred to construct a 12-foot wide trail throughout this segment. The trail can be constructed along the majority of the segment with this width and include a minimum 5-foot buffer to the back of curb. Trail sections may use a 10-foot width if required due to areas of constraint.

Preferred Route:

- There is sufficient space to construct a 12-foot wide trail along the railroad corridor. However, due to the limited available separation, a vertical barrier would be needed between the trail and tracks. The tightest area is located between Marks Street and Orange Avenue, which has approximately 32 feet between the center of the eastern track and an existing fence. East of Orange Avenue along Weber Street, there is 38 feet from the center of track to the face of the utility poles and 40 feet to back of curb. The minimum separation to a trail preferred by rail companies is 25 feet from center of track.
- On the eastern portion of Weber Street between Orange and Magnolia Avenues, east of the parking garage access for the Uptown Condominiums, it is recommended to narrow the street to 22 feet (from 30 feet) by extending the curb and eliminating on-street parking. A 15-foot wide trail from the back of the relocated curb would be carried along the north side of Weber Street from that point east to Magnolia Avenue.

Marks Street / Orange Ave Alternative Route :

- A block of Marks Street and Orange Avenue would be used to avoid a short section of railroad frontage with more limited space. Would require on-street parking to be removed on the north side of Marks Street in order to widen the existing sidewalk (would eliminate 4 spaces). This would allow a 12-foot wide trail with a minimum of 4-foot buffer (either hardscape or landscape) to the back of a relocated curb.
- The trail would cross to the east side of Orange Avenue at the Marks Street signal, then proceed north for one block. The sidewalk along that block would require some widening in order to be suitable as a trail. It is a well-landscaped block with a row of palm trees on each side of the sidewalk that provides a 6-foot wide continuous walking path. One row of trees would need to be removed to provide a wider facility, and it would be preferred to remove the trees on the building side rather than on the street side in order to buffer the trail from vehicles.

Park Lake Street / Magnolia Avenue Alternative Route :

- Because the Colonial Overpass trail segment will end at Orange Avenue, the trail will need to cross to the east side of Orange Avenue, which could occur directly at the point where the Colonial Overpass trail segment ends, or alternatively about 125 feet north to align with the south side of Park Lake Street. In either case, a pedestrian hybrid beacon (PHB) or full traffic signal is recommended to facilitate safe crossings for trail users. Also, improvements would be needed on either side of the street to ensure a preferred 12-foot width for the short trail section along Orange Avenue. On the west side, there is approximately 22 feet of space between the street and the back of sidewalk, but it would need to be reconfigured for trail use, including potential landscaping/tree relocation. On the east side, improvements would need to be coordinated with the proposed development plans for the Pizzuti Park Lake LLC project.
- Aligning the trail along the south side of Park Lake is preferred to avoid the entrance and exit of a parking garage on the north side of the roadway which would require its driveways be reconfigured to support trail crossings. The south side of the roadway could support a sidewalk up to 10 feet in width without relocating or removing trees or utility poles (there is about 11.5 feet



The south side of Park Lake Street is preferred to avoid an existing parking garage access point that can be problematic for crossing pedestrians.

Figure 33-1: OUT - Colonial Overpass to Dinky Line Detailed Map





Railroad frontage south of Marks Street behind Park North at Cheney Place. A vertical barrier is recommended to provide a physical separation between the trail and the railroad tracks.



Looking east on Marks Street along the route of the Marks Street / Orange Avenue Alternative Route. The north (left) side sidewalk would need to be widened and extended, eliminating on-street parking (4 spaces) to accommodate the trail.



Looking east along the railroad frontage adjacent to Weber Street where the trail could be placed outside the 25-foot preferred separation distance from the railroad tracks.



Weber Street just west of Magnolia Avenue, which could be narrowed by extending the north (right) side curb further into the street to provide for a trail width facility.

Figure 33-2: OUT - Colonial Overpass to Dinky Line Detailed Map





Looking north on Orange Ave towards the potential crossing point at Park Lake St. A short section of sidewalk reconfiguration and expansion would be needed for the trail.



Existing sidewalk width varies on the south side of Park Lake St, but there is adequate available width to expand to accommodate a trail.



The sidewalk on the west side of Magnolia Ave south of Marks St would need to be widened to accommodate a trail. Mature trees on the street side make widening on the building side more practical.



The Alternative Route on Magnolia Ave north of Marks Street is proposed to expand the existing sidewalk into the adjacent parallel parking lane to accommodate a trail width facility.

from back of sidewalk to the face of utility pole). A portion of the sidewalk on the south side of the street matches the 8-foot wide patterned brick and concrete pattern used at the One Orlando Centre building on the northwest corner of Magnolia Avenue and Park Lake Street. This sidewalk would need to be replaced and widened to a minimum of 10 feet. The City's rocksalt concrete pavement pattern, which is preferred for trails, could be used.

- The west side of Magnolia Avenue between Park Lake Street and Marks Street maintains the 8-foot wide brick and concrete patterned sidewalk with a 5.5-foot landscape buffer. To widen to a minimum 10-foot trail standard, two potential options were identified: 1) coordinate with the property owner to obtain an easement into the landscaping in front of the building so the existing 5.5-foot landscape median could remain as is (this may be feasible since the existing sidewalk appears to be completely on the privately owned property); or 2) widen into the existing landscape buffer which would reduce it to about 3 feet and require the removal of numerous mature shade trees and potentially also require relocation of pedestrian-oriented lighting. The impact to the trees could remedied somewhat if curb extensions were constructed into the on-street parking lane at corners with trees added in the bulbouts.



A bicyclist riding on the existing 8-foot wide sidewalk on the west side of Magnolia Ave south of Marks St.

- On the Magnolia Avenue blocks between Marks Street and Weber Street, the existing sidewalk on both sides is located at the back of curb, and the right-of-way line is at the back of sidewalk. Both sides of the street have on-street parking, so regardless of which side the trail is placed on, it would require extending the curb to capture the space used by parking. There is less impact to parking on the east side of the street with 11 total spaces compared to 15 spaces on the west side. The space on the east side from the existing parking stripe to the back of curb is 16 feet which would permit a small 4-foot hardscaped area and 12 foot wide trail.
- To offset potential parking losses on the east side of Magnolia Avenue between Marks Street and Weber Street, it would be possible to reconfigure Weber Street to allow back-in angle parking. This would require capturing the available right-of-way on the north side of street for a sidewalk and widened street section. If implemented, back-in angle parking should be limited to 2 hour parking so students from Lake Highland Prep School would not park there.

Connections

The OUT when fully completed will serve several regionally significant destinations within the City of Orlando including Downtown Orlando, which is the regional core containing high density residential districts, regional employment centers, and various cultural and entertainment venues. The trail will also play an important transportation function by connecting to all four City of Orlando SunRail Stations. The trail will connect to Florida Hospital and the Orlando Health Campus, which are two regionally significant medical institutions located north and south of the Central Business District. Once completed, the OUT will provide a seamless connection to the Shingle Creek Trail southwest of Downtown, thereby creating a regionally significant bicycle connection from Downtown Orlando to the City of Kissimmee waterfront.

Drainage/Structures

- North of the proposed Colonial Overpass, the OUT will not be fully back down to grade at the northwest corner of the Steelhouse Orlando Apartments before the route turns east towards Orange Avenue. Therefore, it will be necessary to construct a structure with MSE walls to allow the trail to also continue to the north along the preferred route.
- Along a portion of Weber Street, there is an elevation difference from the roadway to the rail bed. Because the trail is recommended to follow the roadway on this section, it would be necessary to construct a small retaining wall on the north edge of the trail, with a railing along the edge of the trail.
- On the Marks Street / Orange Avenue Alternative Route, the proposed sidewalk widening on the north side of Marks Street will impact two drainage inlets. The sidewalk modifications will need to reconfigure the inlets to connect to the existing stormwater system.
- On the Park Lake Street / Magnolia Avenue Alternative Route, the proposed curb shift on the east side of Magnolia Avenue from Marks Street to Weber Street will impact one drainage inlet. The modifications will need to reconfigure the inlet to connect to the existing stormwater system.

Environmental

- On the preferred route, several trees would need to be removed along the eastern portion of the Weber Street block to the west of Magnolia Avenue. Most of the trees that would need to be removed are palm trees, but there is one stand with one or more other varieties of trees.
- One of the potential options if the Park Lake Street / Magnolia Avenue Alternative Route is used would be to remove trees on the west side of Magnolia Avenue between Park Lake Street and Marks Street to widen the sidewalk to trail width. While the loss of trees could be offset somewhat with plantings in new curb bulbouts, this is not the preferred solution for the trail alignment.

Utilities

- On the preferred route, three utility poles would need to be relocated along the eastern portion of the Weber Street block to the west of Magnolia Avenue.
- On the Marks Street / Orange Avenue alternative alignment, there is one utility pole that would need to be relocated on the north side of Marks Street.
- The Park Lake Street / Magnolia Avenue alternative route would require the relocation of two light poles on the east side of Magnolia Avenue north of Marks Street, as well as one span-wire sign pole, although no impacts would be expected on Park Lake Street.

Safety & Security

- There may be personal safety concerns with aligning the trail along the railroad tracks because the area is less visible with fewer eyes on the trail from adjacent development compared to having it located alongside roadways. However, the OUT will serve as the spine of the City's trail network, and completing this connection will help to activate the space. With more users, personal safety concerns will be lessened.
- The rail corridor also may present rail-related safety concerns as well. However, constructing the trail with a physical barrier to the tracks will ensure that the corridor has reasonable buffering from the railroad tracks. At roadway-rail grade crossings, special attention will be needed to provide additional pedestrian-oriented safety features such as pedestrian gates or repositioning roadway gates to be located between the trail crossing and tracks.

Right-of-Way

- FDOT owns the right-of-way in the railroad corridor, and coordination will be needed to locate the trail within the railroad corridor. The transfer of the railroad from CSX to FDOT may have included some constraints on the use of the right-of-way. Therefore, the option to place a trail within the right-of-way may require amendments to transfer agreement conditions.



The Gertrude's Walk corridor in Downtown Orlando is located close to the existing railroad tracks but trail users are safely separated by a brick & wrought iron wall.

- With the FDOT railroad right-of-way, there is generally about 35 feet from the center of the eastern-most track to the eastern right-of-way line, which in most areas includes an approximate 4-foot wide available right-of-way on the eastern edge that is actually not part of the railroad right-of-way. At its tightest area between Marks Street and Orange Avenue, the width from center of track to the right-of-way line (and an existing fence) is 32 feet. The minimum separation desired by the railroad companies has typically been 25 feet from the center of track. Therefore, with minimal clearance on the outside, it would be possible to construct a 12-foot wide trail without deviating much below the desired minimum separation. It must also be noted that there is an excellent nearby example where the separation between trail and center of rail track is far less than 25 feet and the trail operates safely due to the barrier provided. Portions of the existing Gertrude's Walk section of the OUT are separated by as little as 12 feet from the center of the closest track using an aesthetically designed brick and wrought-iron wall/fence. A similar treatment could be applied to the section between the SR 50 bridge and Magnolia Avenue. It is recommended that available literature on Rails with Trails, particularly safety statistics and best practices for existing rail-with-trail facilities, be used to support the proposed concept and address potential liability concerns.
- The Park Lake Street / Magnolia Avenue Alternative Route would require coordination with the One Orlando Centre property owner to widen the existing sidewalk on the east side of Magnolia Avenue to trail width. The existing sidewalk is already located on the privately owned property and widening it without removing trees in the landscape buffer to the street would require narrowing the landscaping in front of the building.

Constructability

There are no major known constructability issues related to any of the potential alignments. One key issue is related to locations where the existing sidewalk needs to be widened to trail width. In these areas, drainage and utility impacts will need to be considered and changes to driveways and cross street curb ramps will be needed.

Connecting the preferred route trail alignment into the OUT Colonial Overpass structure may present some challenges, as it will require the use of MSE walls to have the trail meet the elevation of the Colonial Overpass and will also occur at a 90 degree turn in the Colonial Overpass structure.

Traffic Impacts

Along the preferred route adjacent to the rail corridor, there are three locations where the trail would cross a roadway:

- Marks Street - the traffic volumes are low at this location and no specific traffic control is envisioned to be needed for the trail crossing. The roadway is approximately 35 feet wide at the crossing point, so it is recommended that if used the crossing should be narrowed through curb extensions.
- Orange Avenue - the crossing point adjacent to the railroad tracks is approximately halfway between existing signalized intersections at Legion Place / Garland Avenue and Marks Street. With the higher traffic volumes on Orange Avenue, a signal would be needed to help trail users cross the three-lane roadway section. Sight distance is also limited due to the curve along Orange Avenue and the building located on the southeast corner of Orange Avenue and Legion Place. Due to its close proximity to the adjacent signals (each is 200-250 feet away), it would need to be interconnected and coordinated with the existing system on Orange Avenue. Curb extensions should be constructed on both sides of the crossing to reduce the total crossing distance.
- Magnolia Avenue - the proposed crossing point at Weber Street is approximately 320 feet upstream of the existing signal at Orange Avenue. A signal would be needed at this location to assist trail users cross the street, and it should be interconnected and coordinated with the other signals along Magnolia Avenue. A curb extension is also recommended in the northeast corner to reduce the crossing distance. The signal is of particular importance due to the crest vertical curve that occurs on Magnolia Avenue just upstream of the proposed crossing point at Weber Street; without a signal, there may be potential sight distance issues for motorists to see and react to crossing bicyclists and pedestrians.

For the Marks Street / Orange Avenue Alternative Route, the crossing points are the same as those on the preferred route with the exception that the Orange Avenue crossing would occur at the existing signalized intersection at Marks Street.

On the Park Lake Street / Magnolia Avenue Alternative Route, there are two major street crossing points. The first is crossing Orange Avenue, which would occur either at Park Lake Street or approximately 125 feet to the south at the point where the Colonial Overpass Trail segment will terminate. The crossing could make use of a pedestrian hybrid beacon at either location, although it may be preferred to use a full traffic signal, particularly if located at the Park Lake Street intersection. The second crossing is at the existing signalized intersection at Magnolia Avenue and Marks Street.

User Experience

- Closing the gap in the OUT along the northern edge of Downtown Orlando provides the opportunity to showcase the City's dense urban landscape and vibrant City life. The trail will be connected either directly or within a very short walk to numerous residential properties in the Uptown Orlando neighborhood, thereby offering residents a recreational and transportation amenity.
- This project extends the existing OUT and provides the ability for users to connect to numerous additional destinations, such as the cultural and museum district at Loch Haven Park.
- The project will open opportunities to bicycling for more people, particularly those people who would only consider riding in a separated trail setting.

Description

The South College Park Connector Route provides a primarily on-street signed route of two miles from the intersection of New Hampshire Street and Orange Blossom Trail (OBT) where the proposed Lake Lawne Trail (#44) and OBT Trail (#2) meet. The route travels through the southern portion of the College Park neighborhood to the Ivanhoe Village area, Gaston Edwards Park, Gaston Edwards Trail, and the Orlando Urban Trail (OUT) Dinky Line segment. Once east of OBT, the route through the College Park neighborhood makes almost exclusive use of low volume, low speed neighborhoods streets, many of which include traffic calming measures, in order to help foster a family friendly atmosphere.

The route provides direct linkage to five parks: Guernsey Park, Ivanhoe Plaza Park, Lake Ivanhoe Park, Senator Beth Johnson Park, and Gaston Edwards Park. It also passes within one-quarter mile of two other parks: Dartmouth Park and Lake Adair Park. In addition, the route passes within one-quarter mile of the Marks Street Senior Center and within one-half mile of Lake Highland Preparatory School and its ancillary Mark O'Meara Family Sports Complex .

Implementation

- Markings and route signage are low cost items that could be implemented in the near term.
- Coordinate with I-4 Ultimate Design-Build Team trail and intersection improvements on Ivanhoe Boulevard at and near the I-4 interchange.
- Coordinate with FDOT regarding resurfacing and sidewalk improvements on the portion of the route along OBT between Golfview Street and New Hampshire Street.

Cost

$1,300,000 for the preferred route, $1,360,000 for the alternative route. Includes reconfiguring the Ivanhoe Blvd / Lakeview intersection and a section of wide sidewalk/trail along OBT.

Opportunities:

- On OBT between New Hampshire Street and Golfview Street, there is underutilized on-street parking that could be recaptured for trail use by shifting the curb line in. The west side parking would be used for approximately 260 feet south of New Hampshire Street to the proposed midblock crossing point. The east side on-street parking would be used for approximately 850 feet from the proposed midblock crossing point to the south. However, there is an approximate 500-foot length of OBT without the on-street parking on the north side of Golfview Street.
- The proposed trail route uses low speed, low volume streets east of OBT, which help provide a family-friendly environment.
- The proposed route passes by the edge of Guernsey Park, but the alternative route takes advantage of an opportunity to include a segment of trail through the southern edge of the park between Florinda Drive and Northumberland Avenue. The disadvantage of the alternative route is that Florinda Drive has sections of missing sidewalks which may be challenging to complete due to the presence of mature trees. In contrast, the preferred route has complete sidewalks on at least one side of the street.
- Although the proposed crossing of Edgewater Drive at Shady Lane is uncontrolled, there is an existing marked crosswalk across the south leg of the intersection. This should be supplemented with a crosswalk across the east leg of the intersection connecting the existing sidewalk on the north side of Shady Lane Dr to the crosswalk. In addition, the crossing could be supplemented with RRFBs to make crossing bicyclists and pedestrians more visible to motorists on Edgewater Drive.
- The I-4 Ultimate project proposes to include a trail corridor along the north side of Ivanhoe Boulevard underneath I-4 at the Ivanhoe interchange and includes a new signalized crossing of Ivanhoe Boulevard at a new ramp intersection on the east side of I-4. Coordinate with the I-4 design team to ensure that the trail remains in the plans and provides an optimal and safe connection through the interchange area. Evaluate the potential to complete the Ivanhoe Blvd/Lakeview St intersection reconfiguration and connecting trail segments on both sides of I-4 as part of the I-4 Ultimate project.
- The east end of the project is proposed to connect to the current termini of two existing trails (the Gaston Edwards Trail and the Orlando Urban Trail Dinky Line), as well as to two parks (Gaston Edwards Park and Senator Beth Johnson Park).

Issues:

- The route is proposed to connect to the Lake Lawne Trail (#44) and OBT Trail (#2) just south of New Hampshire Street on OBT. Because there are no nearby signalized crossing locations, an enhanced midblock crossing using a pedestrian hybrid beacon or RRFBs would be needed for trail users to cross OBT. An existing median at the proposed crossing location would facilitate a two-stage crossing – if a pedestrian hybrid beacon were used, it could be configured to stop traffic in each direction independently, thereby minimizing vehicle delay.
- There is limited space within the existing OBT right-of-way to construct a trail, due in part to the convergence of the OBT corridor with the CSX-owned rail line on the east side of OBT. The available right-of-way width is as narrow as 13 feet between the proposed midblock crossing point and Golfview Street. At that point, the center of the CSX rail line is 18 feet from the right-of-way line, which is narrower than the preferred minimum 25-foot clearance distance for trails. Therefore, additional measures such as a vertical barrier between the trail and rail may be necessary. There are also 9 light or utility poles along OBT between the midblock crossing and Golfview Street that may need to be relocated to accommodate the trail.
- The existing Ivanhoe Blvd/Lakeview St intersection is configured to facilitate free-flow, high speed westbound right turns. This occurs at an existing pedestrian crossing and the location where the trail is proposed to transition to an on-street route. Recommend reconfiguring the westbound right turn movement to require a slow speed 90-degree turn and mark the pedestrian crosswalks (they are not marked today).
- Continuing the off-street trail around the western edge of Lake Ivanhoe to Shady Lane Drive would be preferred. This would involve replacing existing 5 to 6 foot sidewalk with a wider 10-foot (minimum) trail. Enhanced community outreach will be needed to gain community approval of a wider trail around the lake.
- Portions of the route along Ivanhoe Blvd, Poinsettia Avenue, and Shady Lane Drive is on brick streets. While brick streets offer some traffic calming benefit, they are not a preferable riding surface for many bicyclists due to the rough ride. They may also limit the ability to easily implement longer lasting shared lane markings due to adherence of thermoplastic markings to the brick surface.

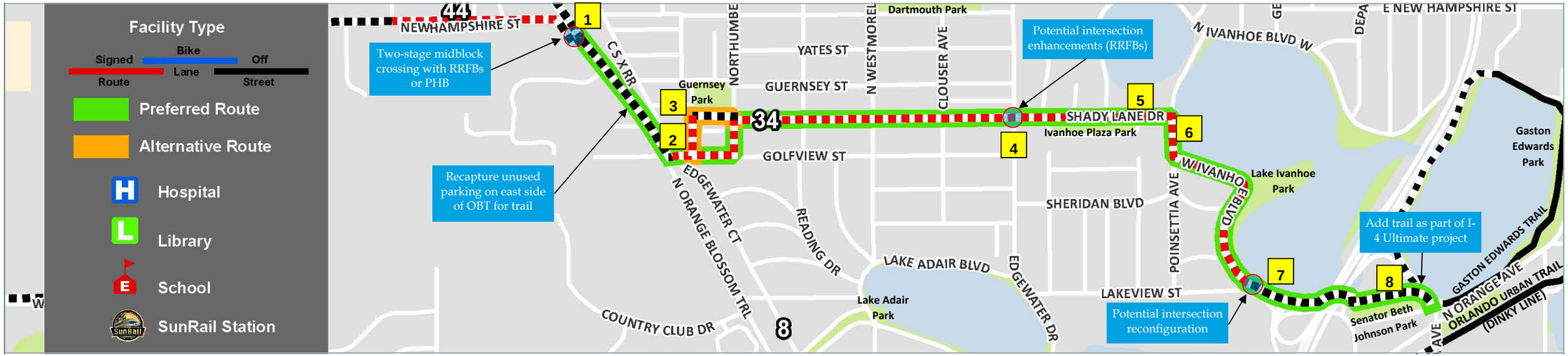






The South College Park Connector Route already has sections designated as a bike route such as by Lake Ivanhoe (top), and is used by bicyclists to connect along and to OBT (middle, bottom).

Figure 34-1: South College Park Connector Route Overview Map





Proposed midblock crossing location on OBT south of New Hampshire St. Trail proposed to recapture unused parking lane on east side of roadway (left side of photo).



There is sufficient right-of-way in which to construct a trail, but due to the distance to the railroad tracks, a vertical barrier may be needed to separate the tracks and the trail.



The proposed route connects directly to Guernsey Park. The alternative alignment includes a section of trail through the park.



The existing signed and marked crosswalk on Edgewater Drive at Shady Lane. Crossing may be considered for some upgrades including the use of RRFBs.



Shady Lane, a neighborhood brick street in College Park, provides direct access to Ivanhoe Plaza Park.



Portions of the proposed route are already designated as a bicycle route, such as Poinsettia Avenue adjacent to Lake Ivanhoe.



The I-4 Ultimate project is proposed to include a trail on the north side of Ivanhoe Blvd to the Lakeview St intersection, where it will transition to a signed route. This intersection should also be considered for reconfiguration to slow turning traffic and make it friendlier for cyclists and pedestrians.



The eastern approach to the I-4/Ivanhoe Blvd interchange is recommended to include a trail on the south (left) side of the roadway and cross to the north side at a proposed new signal controlled ramp intersection.

ID # 37| Valencia - Shingle Creek Trail Connector

Preliminary Screening Level: LOW

Description

The Valencia - Shingle Creek Trail Connector, as shown in Figure 37-1, is proposed to connect the Valencia State College West Campus to the regional Shingle Creek Trail at Eagles Nest Park, a distance of 0.6 miles. The proposed 10-foot wide trail begins at the canal bridge on Metrowest Boulevard, which is the current western terminus of an existing 12-foot wide trail spur to the Shingle Creek Trail. From there, the proposed trail would travel west to Kirkman Road, then head north on the east side of Kirkman Road to Sterling Crest Drive. A 1,900-foot pathway was constructed in 2013 that connects the southeast corner of campus on Kirkman Road to the interior of campus. This connection does not currently tie directly to Kirkman Road, but comes within 100 feet of the signalized intersection at Sterling Crest Drive (the northern Walmart Plaza entrance). The proposed trail would make a connection to the existing campus pathway.

Modification to the Metrowest Boulevard canal bridge will be necessary to incorporate a trail across the bridge and keep the alignment on the north side of the roadway which would eliminate the need to cross Metrowest Boulevard twice within a half mile.

Implementation

- Complete a detailed preliminary engineering study to develop a more accurate cost estimate and clarify all of the right-of-way and permitting requirements.
- Coordinate with FDOT in regards to use of the Kirkman Road right-of-way and modifications to the Kirkman Road/Sterling Crest Drive intersection.
- Coordinate with Valencia State College on connection to existing pathway and potential upgrade of existing pathway width and surface.

Cost

$830,000

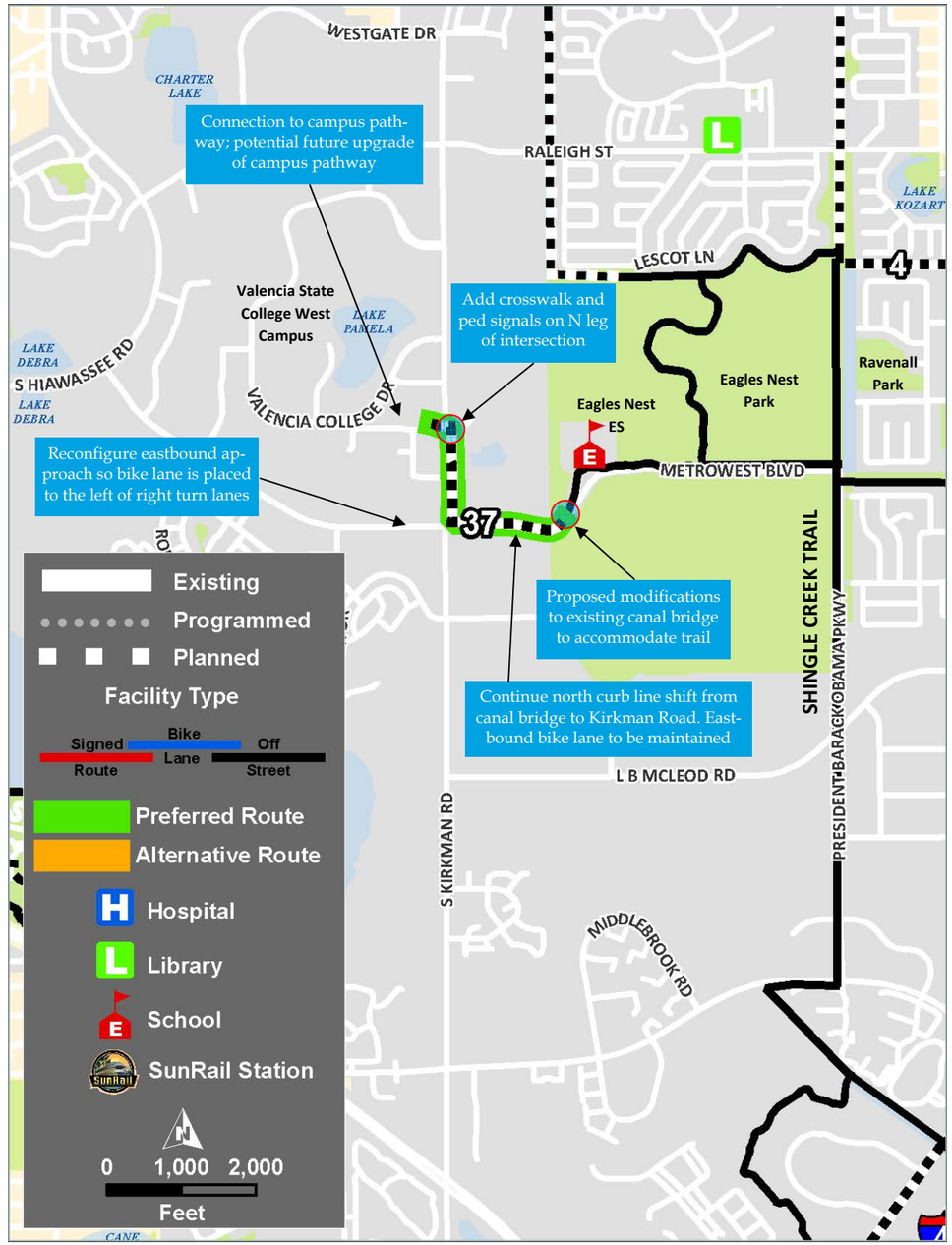
Opportunities:

- Complete the connection from the northwest corner of the Kirkman Road/Sterling Crest Drive intersection to the existing Valencia West Campus pathway, a gap of approximately 100 feet. A crosswalk and pedestrian signals will be needed on the north leg of the Kirkman Road/Sterling Crest Drive intersection to facilitate the crossing to this connection.
- The recently constructed pathway on the Valencia campus is a 6-foot wide natural surface trail. This could be upgraded by the college to a wider paved asphalt surface to provide a minimum 10-foot wide pathway all the way into the campus interior.

Issues:

- The existing trail along Metrowest Boulevard is on the north side of the roadway adjacent to Eagles Nest Elementary School, therefore it is preferred for the proposed trail to also be located on the north side of Metrowest Boulevard, so it does not have to cross this road twice within a distance of less than 1/2 mile. However, the canal bridge currently has two lanes and bike lanes with 5-foot wide sidewalks at the back of curb. This current configuration does not support the provision of a trail-width facility on the bridge Therefore, it is recommended that the north curb line be shifted 5 feet into the roadway to provide a 10-foot wide trail across the bridge. While this would not affect the eastbound direction, it would necessitate the elimination of the westbound bike lane beginning on the approach to the canal bridge. East of the bridge, a ramp should be provided to allow westbound bicyclists in the bike lane the opportunity to ramp up to the trail. For those bicyclists that want to stay in the street, the bike lane striping should be dashed to allow them to merge into the adjacent travel lane where shared lane markings could be considered from that point to Kirkman Road. The shift of the curb line should be extended to Kirkman Road to avoid right-of-way impacts.
- The eastbound bike lane on Metrowest Boulevard located west of Kirkman Road, which provides a on-street connection to the proposed trail project to the east, needs to be reconfigured. It is currently placed to the right of a double right turn lane, which does not put through bicyclists in the correct location to continue east on Metrowest Boulevard.

Figure 37-1: Valencia - Shingle Creek Trail Connector Overview Map



Description

The North College Park Connector Route provides a 3.1-mile on-street signed route from Orange Blossom Trail (OBT) through the College Park neighborhood to the Florida Hospital Health Village, SunRail station, Loch Haven Park and its various community destinations. The west end of the route is proposed to connect to the OBT Trail (ID #2), a proposed facility along OBT that would connect College Park to Lake Fairview and Trotters Parks, as well as the Rosemont neighborhood. The east end of the route provides connections to the major employment center at Florida Hospital and to the numerous museums and theaters at Loch Haven Park. The east end would also connect to the Orlando Urban Trail (OUT) Dinky Line segment at the north end of the Lake Formosa bridge. The route would connect directly to or within one-quarter mile of several schools including Silver Star Center, Lake Silver Elementary School, Edgewater High School, and Princeton Elementary School.

The route through the College Park neighborhood is proposed to be on primarily low volume, low speed streets to help foster a family friendly atmosphere. Many of the streets on the route already have traffic calming features such as traffic circles and speed humps or cushions which help keep vehicle speeds low.

Implementation

- Markings and route signage are low cost items that could be implemented in the near term.
- Evaluate a potential change to the Silver Star Road typical section with potential implementation during the roadway's normal maintenance cycle.
- Ensure bicycle routes or trails in Loch Haven Park are coordinated with recently completed improvement plans. Also coordinate with expansion plans for the Mennello Museum and Orlando Ballet headquarters to implement a more direct trail connection from North Lake Formosa Drive to the OUT.

Cost

$150,000 using either the preferred or alternative route.

Opportunities:

- Silver Star Road between OBT and Rio Grande Avenue is a potential road diet candidate. The current daily traffic volume is 7,300 (source: Orange County Traffic Engineering Department 2013 Annual Count Report), which is well within the range at which a road diet would be considered (typically 15,000 to 20,000 ADT or less). The roadway has a four-lane undivided section with on-street parking on both sides. With the exception of the area on the south side of the road in front of the Silver Star Center School, the parking is not well utilized. Reconfiguring the roadway to a three-lane section (one lane in each direction with a center turn lane) and the removal of parking on the north side of the roadway would allow for the incorporation of on-street buffered bike lanes without compromising traffic operations. A road diet project would ideally be incorporated during the normal maintenance cycle of the roadway. Alternatively, or prior to a resurfacing / re-striping project, shared lane markings could be applied in the outside lane in each direction, centered within the lane.
- Many streets on the proposed route already have traffic calming features which help to keep vehicle speeds low, making for a more bike-friendly environment. Bryn Mawr Street has two neighborhood traffic circles and speed humps. Winter Park Street has speed humps west of Edgewater Street and newly-installed speed cushions on the section east of Elizabeth Avenue.
- Portions of the proposed route, such as Winter Park Street are already designated as a bike route and include several bike route signs, some with arrows at turning points. However, the signs are inconsistent - some are the older Orlando Bikeway signs, others are standard green MUTCD bike route signs. It is recommended that all route signs be consistent and that wayfinding information such as destinations and distances be added.
- The crossing of Edgewater Drive would occur at the existing signalized Winter Park Street intersection. The pavement loop detectors at this signal have been specifically configured to detect bicycles and signage and markings indicate the proper location for bicyclists to wait to trigger a green signal.
- The Florida Hospital SunRail Station Area Bicycle & Pedestrian Connectivity Study completed for FDOT (Kittelson & Associates, Inc., March 2014) recommended shared lane markings be used on Winter Park Street west of Orange Avenue. It is recommended to extend the use of shared lane markings and route/wayfinding signs to the entire proposed route.
- While the proposed route is still considered to be on-street the Florida Hospital campus area along the proposed route has wide sidewalks (minimum 10 feet) along the south side of Rollins Street and along the east side of Alden Road which could serve as an off-street trail for those users more comfortable riding off the street in this busier area.

Issues:

- The proposed route turns right from Silver Star Road onto Rio Grande Avenue then immediately left onto Fairview Street. This maneuver could potentially be challenging to make, particularly during peak periods since vehicles making a northbound left from Rio Grande Avenue may block the access to Fairview Street for eastbound bicycles. For westbound bicycles, it may be difficult to get into the northbound left turn lane on Rio Grande Avenue. A potential alternative route would use Taft Avenue to Bryn Mawr Street. This would eliminate a portion of the route on Silver Star Road, as well as the potentially awkward crossing of Rio Grande Avenue. The alternative route would cross directly across Rio Grande Avenue on Bryn Mawr Street, and with the additional advantage of occurring at an existing marked school crossing immediately adjacent to Lake Silver Elementary School. One downside of the alternative route is that it does not have sidewalks (which might be preferred for some route users) until east of Rio Grande Avenue on Bryn Mawr. In contrast, the vast majority of the preferred route has continuous sidewalks on at least one side of the street. Another downside of the alternate route is that northbound cyclists may have more difficulty and have to wait longer for a gap to turn left from Taft Avenue to Silver Star Road.
- The existing bicycle connection from Alden Road to the Orlando Urban Trail consists mainly of narrow and indirect sidewalks along North Lake Formosa Drive and in the area adjacent to the Mennello Museum of American Art. This issue was discussed at more length in the Florida Hospital SunRail Station Area Bicycle & Pedestrian Connectivity Study. A wider and more direct trail connecting at minimum from the eastern cul-de-sac/turnaround to the OUT would provide a more desirable bicycle route in this area.
- The existing pavement loop detectors in the northbound direction at the Princeton Street / Alden Road intersection are not sensitive to bicycles. This issue should be addressed through repair, changes to the loop sensitivity, or installation of video detection.

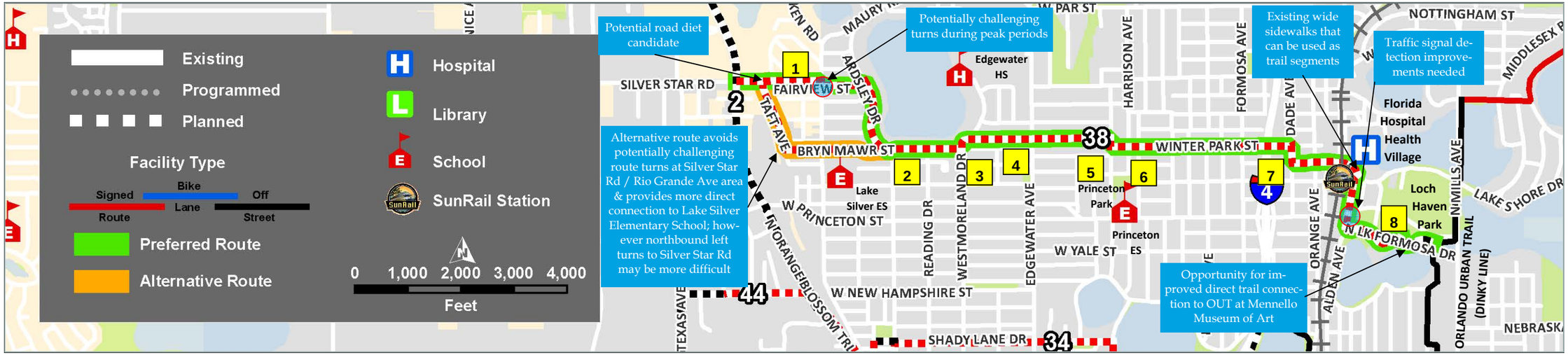






The Winter Park Street corridor, which is part of the proposed North College Park Connector route, is used by numerous bicyclists today to connect across College Park. As shown, some bicyclists feel more comfortable riding in the street, while others prefer the sidewalk even on this low speed, traffic calmed roadway.

Figure 38-1: North College Park Connector Route Overview Map





Silver Star Rd between OBT and Rio Grande Ave is a road diet candidate to convert to 3 lanes plus bike lanes. The only well-used on-street parking is at the Silver Star Center (on left).



Bryn Mawr St makes up a portion of the proposed neighborhood route through College Park, which due to low volumes and low speeds, is already a family-friendly on-street route.



Many of the streets along the proposed route already have traffic calming elements, such as this neighborhood traffic circle at Bryn Mawr St and Westmoreland Dr.



The signal at Edgewater Dr and Winter Park St includes signage and markings to inform bicyclists where to wait to trigger a green light, making it convenient for bicyclists to cross the busier Edgewater Dr at Winter Park St along the proposed route.



The proposed route has existing bike route signs in some areas, such as this one on Winter Park St just west of Elizabeth St.



The City recently installed speed cushions along Winter Park St between Elizabeth St and Formosa Ave to encourage slower vehicle speeds and enhance the bicycling environment.



The Winter Park St corridor is already a popular connector for bicyclists to get to the Florida Hospital and Loch Haven Park areas.



The existing Orlando Urban Trail is not continuous at the Mennello Museum. It currently transitions to a narrower sidewalk and is interrupted by a drop-off loop.

ID # 40 | Conway North-South On-Street Connector

Preliminary Screening Level: LOW

Description

Route #40 would provide a 7.5-mile north-south connection from the Lake Underhill Path to the Southport area west of Orlando International Airport (OIA). There are few opportunities for off-street trails in this area, so the focus of this route is family-friendly streets. Two potential alignments for the corridor were identified for the route north of Michigan Street. The preferred eastern alignment would require a connection through the First Alliance Church property between Lake Underhill Road and Berwyn Avenue, as well as a trail connection along the Watauga Avenue right-of-way.

The alternative western route avoids these two areas but would require usage of busier collector roadways (Conway Gardens Road and Crystal Lake Drive). Between Michigan Street and Gatlin Avenue, the route would involve a combination of several neighborhood streets including: Harriet Drive, Illiana Street, Touraine Avenue, Kew Gardens Lane, Oakwater Pointe Drive, Emerywood Lane, Oakview Drive, Pershing Avenue and Stillwell Drive. The route then continues east on Gatlin Avenue to Conway Road, where an eight-foot sidewalk exists on the west side of the roadway. The route continues south along Conway Road south to Judge Road where it heads west until the roadway becomes Daetwyler Drive, then continues south to McCoy Road.

Implementation

- Most of the project could be implemented with a series of route/wayfinding signs and pavement markings.
- Much of the project is outside the City limits and would need to be implemented by Orange County. Coordination with FDOT will also be required for portions along Conway Road (SR 15) .
- Coordination with First Alliance Church on access for a potential route through their property.
- Outreach and coordination with residents and City and County Commissioners regarding a potential connection on Watauga Avenue, which may be a contentious issue.
- Program an upgrade to the signals on Daetwyler Drive at McCoy Road and S. Frontage Road for pedestrian features.

Cost

Preferred route: $670,000.

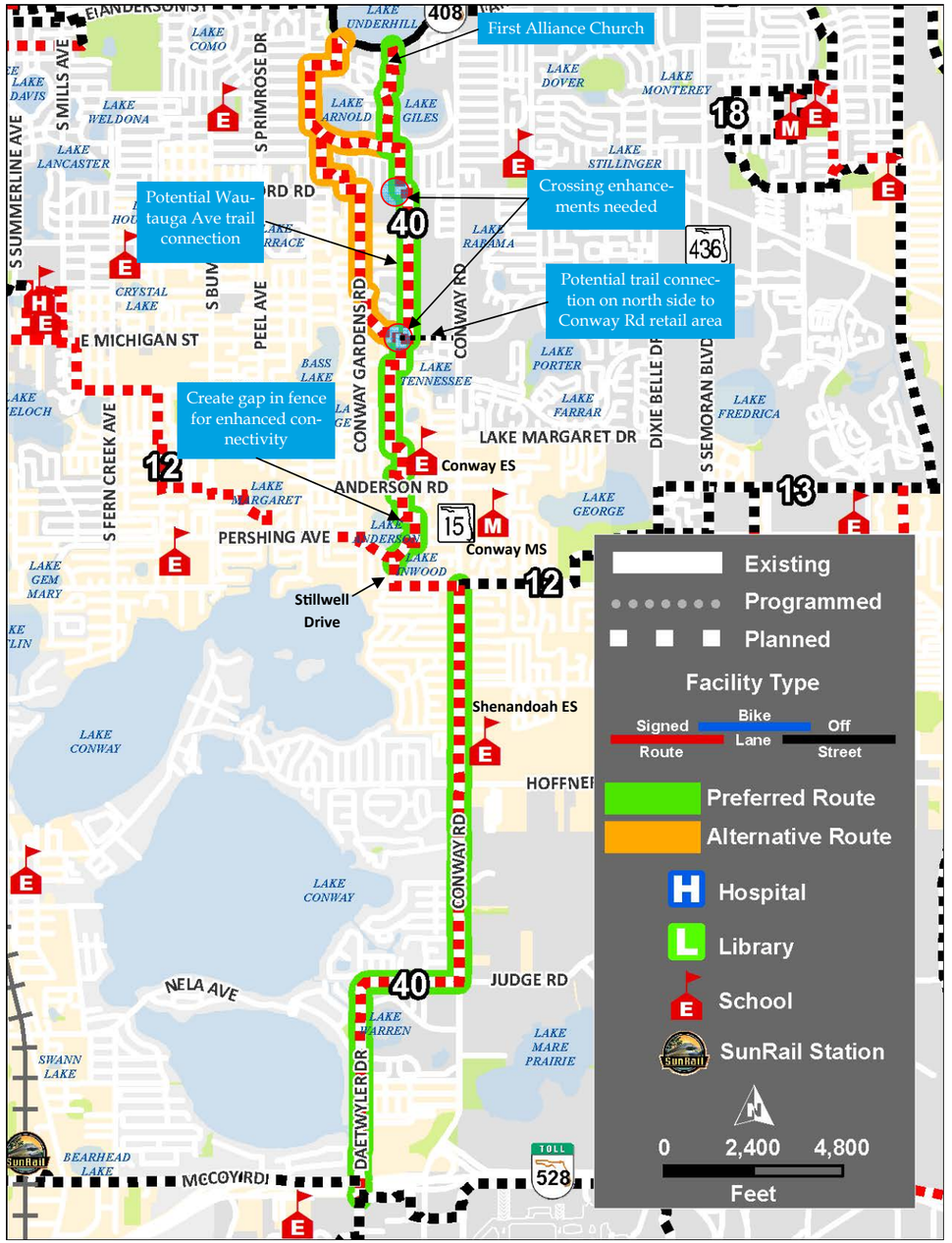
Opportunities:

- Connect Watauga Avenue between Curry Ford Road and Michigan Street for bicycles/pedestrians only. This would require connecting a two-block section between Surrey Drive and Brandy Street.
- A safe pedestrian crossing of Michigan Street at Harriet Drive could be created with a median refuge island on the west leg of the intersection.
- The existing pedestrian-only connection on Emerywood Lane west of Oakview Drive creates a low traffic volume route. A gap in the fence in the middle of the road would enhance this connection for bicyclists.

Issues:

- A formal signed and marked route through First Alliance Church between Lake Underhill Road and Berwyn Avenue would require permission from and coordination with the church. If the church connection is made, a midblock bicycle/pedestrian crossing would be needed on Lake Underhill Road to connect the Lake Underhill Path to the church.
- A wide sidewalk along the alternate Crystal Lake Drive route is desirable; however, this could be difficult due to the limited right-of-way and open drainage.
- For the preferred Watauga Avenue connection, a bicycle/pedestrian crossing of Curry Ford Road will be needed. This would potentially include a refuge island with a pedestrian hybrid beacon located just west of Wautauga Avenue (about 0.25 mile away from existing signals in both directions). Without the Watauga connection, the alternate route would cross Curry Ford Road at the existing Conway Gardens Road signal.
- Sidewalk connections, ramps and warning signs will be needed for pedestrians crossing Lake Margaret Drive at Touraine Avenue. A sidewalk connection should be completed from Anderson Road south on Oakwater Pointe Drive.
- South of Gatlin, there are no opportunities for connecting neighborhood streets. Users will need to travel on sidewalks or in-street along Conway Road and Daetwyler Drive.
- Additional pedestrian warning signs and crosswalk markings across the side streets would be needed along the west side of Conway Road.
- Pedestrian signals, sidewalk connectivity and markings are needed on Daetwyler Drive at McCoy Road and S. Frontage Road.

Figure 40-1: Conway North-South On-Street Connector Overview Map



Description

The area east of Semoran Boulevard between Orange County's proposed Avalon Trail and the Orlando International Airport (OIA) has been identified as a gap in the local trail network. With limited opportunities for an off-street trail in this area, an on-street route is proposed that provides connections to the local trail network and the major employment destination at OIA. Three potential alignments have been identified between the proposed Avalon Trail and OIA. The route with the least amount of right-of-way acquisition and most immediate potential for use is the central route that requires the acquisition and completion of the Patch Road connection. However, the preferred long term route (due to its most straightforward alignment, low traffic volumes, and most bicycle friendly roadways) is the 5.25-mile west corridor that uses the western OUC property to connect from the Avalon Trail to Pershing Avenue, then continuing on Commander Drive, Augusta National Drive Extension, TG Lee Boulevard, and McCoy Road to Goldenrod Road at SR 528. The southern terminus of the route would connect to a proposed OIA trail to the East Airfield Development Area and existing bike lanes on Heintzelman Boulevard.

Implementation

- Evaluate potential pedestrian bridge connection over the canal between Patch Road and Corporate Center Boulevard, which would allow for a complete, near term on-street route with a series of route /wayfinding signs and pavement markings.
- Coordination with Expressway Authority on potential trail and reconfiguration of Goldenrod Road at SR 528 interchange.
- Coordination with OUC on the preferred connection from Avalon Trail to Pershing Avenue.
- Continued planning and right-of-way acquisition for new roadway segments on the preferred route, including Commander Drive Extension south of Hoffner Avenue, Augusta National Drive Extension south of Lee Vista Boulevard and the TG Lee Boulevard connection to TPC Boulevard. Consider incorporating a trail along these proposed new roadway sections.

Cost

Preferred route: $1,590,000.

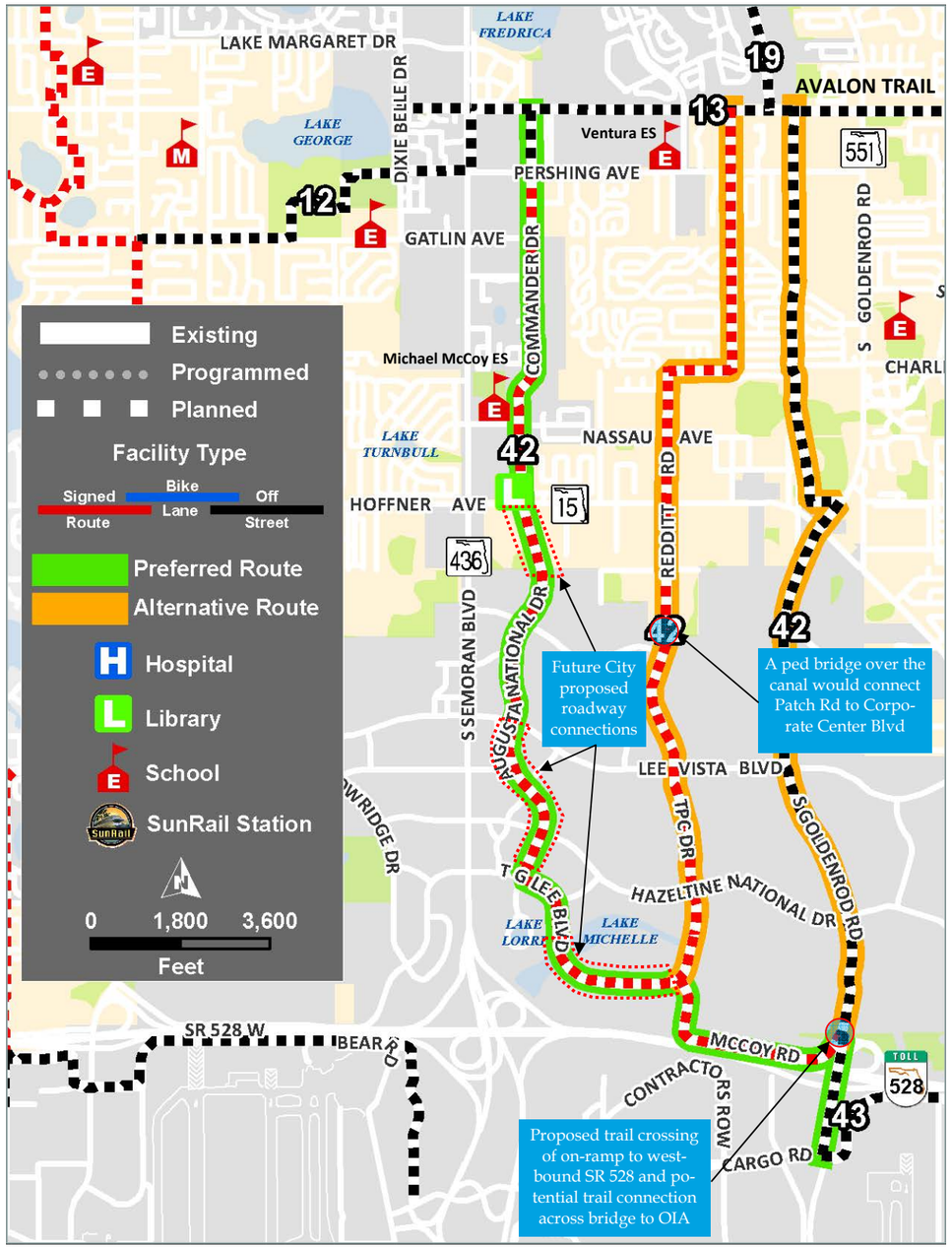
Opportunities:

- Goldenrod Road has bike lanes south of Hoffner Avenue and the toll booth just north of SR 528 has bypass lanes for bikes. However, the SR 528 interchange area is not bike-friendly. Reconfiguring the overdesigned bridge over SR 528 may allow for a trail and improved bike connectivity to OIA.
- There are three opportunities to connect the Avalon Trail corridor to Pershing Avenue. The western connection involves a drainage canal/utility corridor that is on the western portion of OUC's facility on Pershing Avenue; the canal may need to be converted to a culvert. The central and eastern connections would both involve the power easement and acquisition of land or an easement, the central from Iglesia Casa del Alfarero and the eastern from Green Hill Presbyterian Church.
- Although it is a private road and not part of the routes shown on the map, Woodgate Boulevard provides a direct connection to Ventura Elementary School and is a fourth potential connection to the Avalon Trail.

Issues:

- The eastern route that uses the power line corridor just west of Goldenrod Road would create the most bike friendly route for novice riders. However, a significant amount of right-of-way acquisition would be required. There is also limited right-of-way along Goldenrod Road south of Hoffner Avenue to expand the existing sidewalk to a trail.
- An on-street route using collector roadways could be implemented in the near term on the central route using Redditt Road, Patch Road, Corporate Center Boulevard, TPC Drive, and McCoy Road if Patch Road was connected to Corporate Center Boulevard via a pedestrian bridge. A title search would need to be completed and acquisition may be needed in order to provide this connection.
- Improved connections are needed for bicycles crossing through the SR 528 interchange at Goldenrod Road. A separated trail may be possible on the west side of the bridge, including a crossing of the on-ramp from southbound Goldenrod Road to westbound SR 528. A more detailed evaluation of the interchange area will be needed to improve the safety and comfort for less skilled riders.
- A trail connection would be required from the eastern terminus of McCoy Road along the SR 528 / Goldenrod Road interchange to provide access to Goldenrod Road.

Figure 42-1: OBT Trail Overview Map



Description

The Lake Lawne Trail, as shown in Figure 44-1, would provide a 3.9-mile east-west connection between Orange County's proposed Pine Hills Trail and the College Park neighborhood. The connection to the Pine Hills Trail is significant as it would be one of the only indirect connections between the City's trail network and the proposed Coast to Coast Connector Trail (the Pine Hills Trail connects to the Coast to Coast Connector at the West Orange Trail via the Clarcona-Ocoee Connector Trail).

The Lake Lawne Trail would provide connections to several area destinations, including Barnett Park (including its BMX park), the Central Florida Fairgrounds, the Emery Hamilton Sports Complex, Children's Safety Village, Lake Lawne Park, and Northwest Community Center. The preferred route proceeds to the southeast from the Pine Hills Trail Spur to Colonial Drive, then follows Fairvilla Road, Mercy Drive, and WD Judge Road to John Young Parkway. From that point, the route makes use of a City-owned utility easement to connect to the east and north to New Hampshire Street, then proceeds east to Orange Blossom Trail (OBT).

A potential alternative route is shown that would provide a direct connection between Barnett Park and Lake Lawne Park but would require a bridge across Lake Lawne.

Implementation

- Coordinate with Orange County, appropriate City departments, OUC, and the Central Florida Fair related to trail alignment and easements. Orange County has stated it prefers the preferred alignment.
- Complete more detailed feasibility review of potential bridge across Lake Lawne, including impacts, constraints, and likely costs.
- Require conditions of new development on WD Judge Rd to construct portions of the trail on their property.
- Require any redevelopment on the south side of New Hampshire Street to construct the trail on their property.

Cost

$5,290,000 (preferred route).

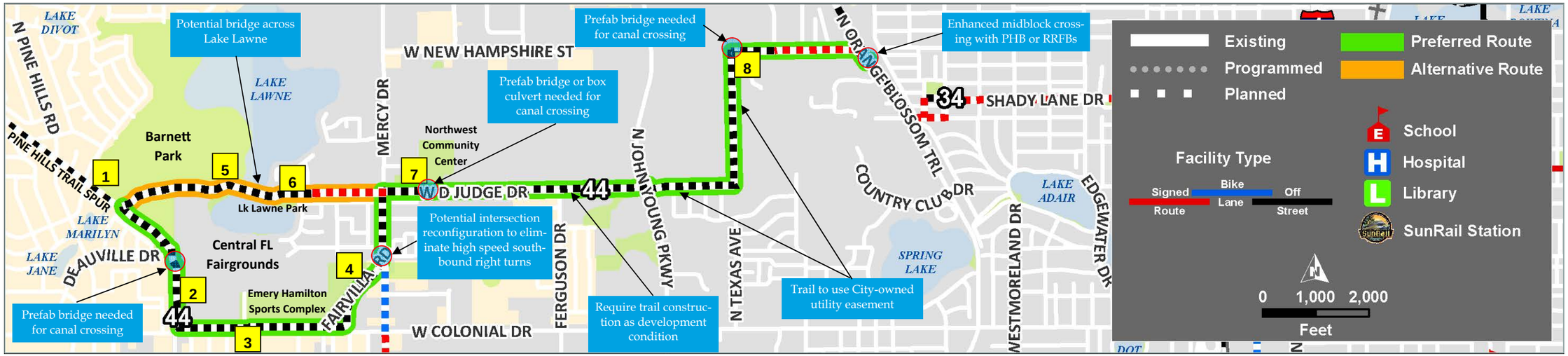
Opportunities:

- The Lake Lawne Trail presents one of only two identified opportunities to connect the City's trail network to the proposed 275-mile Coast to Coast Connector Trail (C2C). The Lake Lawne Trail would connect to the County's proposed Pine Hills Trail, which links to the West Orange Trail (and part of the C2C) via the Clarcona-Ocoee Connector Trail. This indirect connection to the C2C will allow users of this statewide trail to connect to Orlando as a trail destination to take advantage of all the City Beautiful has to offer and will provide the City with a significant economic impact through increased tourism.
- The preferred trail route alignment makes use of several parcels of publicly owned land, including portions of the County's Barnett Park and the City-owned Orlando Utilities Commission (OUC) substation site, Emery Hamilton Sports Complex, Children's Safety Village, and Northwest Community Center. Coordination will be required with the County, appropriate City departments, and OUC to obtain trail easements.
- A portion of the proposed Lake Lawne Trail beginning at its connection point to the Pine Hills Trail Spur could make use of an existing paved roadway / trail located on the western edge of Barnett Park. This area currently serves as part of park's disc golf course.
- On the City-owned OUC substation site, there is sufficient width to accommodate a 10-foot wide trail between existing utility poles and the substation fencing on the eastern bank of a canal. A prefabricated bridge would be required for the trail to cross the canal to the northwest onto the County's Barnett Park parcel. Coordination will be required with the County as the trail alignment would need to skirt the edge of a County maintenance area at Barnett Park. Coordination may also be needed with Paintball World, which is using the northern portion of the City OUC parcel.
- The property along the Fairvilla Road section of the route is either owned by the City or there is sufficient space available within the roadway right-of-way to accommodate a minimum 10-foot trail.
- On the west side of Mercy Drive from Fairvilla Road to WD Judge Road, the width from the right-of-way line to the back of curb varies from 18 to 30 feet. There is sufficient space to widen the existing sidewalk as a minimum 10-foot trail without constraint along this section, although there are a few places where light poles or small caliber trees may need to be relocated.
- The alternate route would include a trail corridor connecting Lake Lawne Park and Lawne Avenue with WD Judge Road via an unused right-of-way for WD Judge Road. There is currently an opening in the fence at the west end of WD Judge Road that permits access to this right-of-way for pedestrians.
- East of the Northwest Community Center on WD Judge Road, there are only 4 parcels on the north side of the road, including the Tabernacle Missionary Baptist Church and 3 large undeveloped parcels. The existing sidewalk on the north side currently ends at the church's eastern property line. There is opportunity to widen this sidewalk to incorporate a 10-foot trail. The undeveloped parcels represent an opportunity to require the trail to be constructed as a condition of new development.
- Recent sidewalk and pedestrian crossing improvements were made at the signalized intersection at John Young Parkway and WD Judge Road which would accommodate trail crossing movements.
- The City owns a strip of land that serves as an existing utility easement, extending east from the John Young Parkway / WD Judge intersection for approximately 1,500 feet to the backside of the Country Club of Orlando. The City-owned utility easement then turns north and connects to Princeton Street. This trail corridor is proposed to use this easement to connect between the John Young Parkway / WD Judge Road intersection and the western end of New Hampshire Street.
- New Hampshire Street is proposed to be an on-street signed route, primarily because of constraints such as limited roadside width, existing parking consuming the space between buildings and the roadway edge, and utility poles. An off-street trail could be considered along the south side of the street over time with potential redevelopment. The western 900 feet of New Hampshire Street already has sidewalk on its south side, which is set back from the roadway by a landscape strip of about 18 feet. This portion of sidewalk could be widened to trail width but may require the removal or relocation of some small caliber trees.

Issues:

- The Central Florida Fair owns approximately 1,100 feet of right-of-way along Colonial Drive between the City's OUC site and Hamilton Sports Complex. There is sufficient space to construct a trail on the north side of the road between the existing sidewalk and property fencing, but a trail easement will need to be obtained.
- The Mercy Drive / Fairvilla Road intersection represents a connection point to the trail from the proposed Mercy Drive Connector (route #3) and the existing bike lanes on Mercy Drive. The intersection is configured to facilitate free-flow, high speed southbound right turns from Mercy Drive to Fairvilla Road. To provide a more pedestrian and bicycle friendly crossing point through slower vehicle speeds, consideration should be given to reconfiguring the intersection to eliminate the high speed, low angle movement by bringing Fairvilla Road to more of a 90 degree angle with Mercy Drive.
- One benefit of the proposed alternative route would be a direct connection between Barnett Park and Lake Lawne Park. However, an approximate 700-foot bridge would need to be provided across Lake Lawne. While this could be an iconic feature for this trail and the Citywide trail network, it could interfere with boating activities on the lake and would likely be very expensive to construct. Further study would be needed to determine the feasibility and costs of various types of bridges (which might include a floating bridge) and would need to include evaluation of the soil conditions on both sides of the lake and lake bottom.
- Further evaluation is needed to determine the appropriate structure to cross the canal on WD Judge Road adjacent to the Northwest Community Center driveway. Water from the canal is currently piped underneath WD Judge Rd and the existing sidewalk. The sidewalk could be widened to trail width and taken over the canal via the top of a box culvert or a prefabricated trail bridge.
- A prefabricated bridge would be required to connect the trail corridor across a canal between the City-owned utility easement and New Hampshire Street.
- The proposed alignment for a trail along Orange Blossom Trail (OBT) - Routes #2 and #38 - at New Hampshire Street is on the east side of the road. Because there are no nearby signalized crossing locations, an enhanced midblock trail crossing using a pedestrian hybrid beacon or RRFBs would be needed for trail users to cross OBT.

Figure 44-1: Lake Lawne Trail Overview Map





Existing paved trail in the northwest part of Barnett Park. The preferred alignment follows the utility lines, and the alternative alignment follows the paved trail to the left.



View of the preferred alignment between an existing canal and an OUC substation. There is 12 feet of width on the canal bank between the utility poles and the fence.



View of the preferred trail alignment adjacent to the north side of Colonial Dr, which has a wide area suitable for the trail on land that is owned primarily by the City.



The west side of Fairvilla Rd has sufficient width and space within the roadway right-of-way to accommodate a 12-foot trail, which would replace the existing sidewalk.



The alternative route would require an approximate 700-foot bridge over Lake Lawne, but would provide a direct connection between Barnett Park and Lake Lawne Park.



Unused roadway right-of-way for WD Judge Rd east of Lawne Blvd is proposed to provide a trail connection between Lake Lawne Park and WD Judge Rd on the alternative route.



A wider structure or box culvert would be required to accommodate a trail on WD Judge Rd at the entrance of the Northwest Community Center.



West of OBT, New Hampshire Rd currently ends at a City utility easement, which is proposed as the trail corridor to link to WD Judge Rd at John Young Pkwy.

Description

With the forthcoming launch of Orlando's bike share program, the number of bicyclists using streets within Downtown Orlando is anticipated to grow considerably. The Downtown Urban Bikeways project seeks to facilitate the safe and efficient movement of bicyclists within Downtown Orlando to more destinations.

The primary north/south arterials through Downtown Orlando operate as a one-way pair. Orange Avenue has three southbound lanes and a bike lane from Garland Avenue to SR 50/Colonial Drive. The bike lane ends at Colonial Drive, and a fourth southbound lane is present between Colonial Drive and Jefferson Street. South of Jefferson Street, Orange Avenue has three southbound lanes. Rosalind and Magnolia Avenues provide three northbound lanes and a bicycle lane between Anderson Street and Orange Avenue. The majority of the length of bicycle lanes on these roadways is located directly adjacent to on-street parallel parking, which places most of the bike lane width within the "door zone" of parked vehicles. Bicyclists who are not vigilant in using caution while traveling in the bike lane are in potential danger of conflicts with opening car doors.

The urban bikeways concept includes three components:

1. Implementation of contraflow bike lanes on Orange Avenue between Jefferson Street and Weber Street, as well as on the Rosalind Avenue/Magnolia Avenue corridor from Weber Street to Washington Street. These would replace the existing bike lanes, where applicable.
2. Provision of shared lane markings centered within the outside lane in the direction of motor vehicle traffic. The markings would let motorists know to expect cyclists traveling with traffic to ride centered within the lane. Shared lane markings would also be provided on Jefferson Street between Orange and Magnolia Avenues, on Washington Street between Magnolia Rosalind and Avenues, and on Weber Street between Orange and Magnolia Avenues to facilitate east/west bike travel between the north/south arterial roadways.
3. Conversion of the single northbound general use travel lane on Magnolia Avenue between Church Street and Jefferson Street to an exclusive two-way bikeway.

Changes in bicycle accommodation on the Orange Avenue and Rosalind/Magnolia Avenue corridors will be impacted by the design of the North LYMMO Corridor, as well as by the ultimate configuration of the Orlando Urban Trail (OUT) between the Colonial Drive overpass and the current western terminus of the Dinky Line Trail at Magnolia Avenue.

Implementation

- The concept discussed herein is just one potential option. A separate, more detailed downtown bike study is recommended to be undertaken to more fully vet potential options for improving bicycle accommodations and safety within the downtown area. The study should evaluate multiple options in order to develop a feasible preferred alternative. The study should also incorporate a substantial public involvement component to ensure that recommendations would be supported by a majority of key stakeholders, including LYNX, the bicycling community at large, and businesses along Magnolia Avenue that may be impacted by the proposed closure of the single lane one-way section of Magnolia Avenue to establish an exclusive two-way bikeway. It should be noted that the City has submitted an application for funding to MetroPlan Orlando for a $200,000 Downtown Orlando Bicycle Study.
- Coordinate with the City parking department on the potential loss of parallel parking spaces.

Cost

$4,090,000 with milling and resurfacing of arterial streets; $570,000 if restriping done as part normal maintenance.

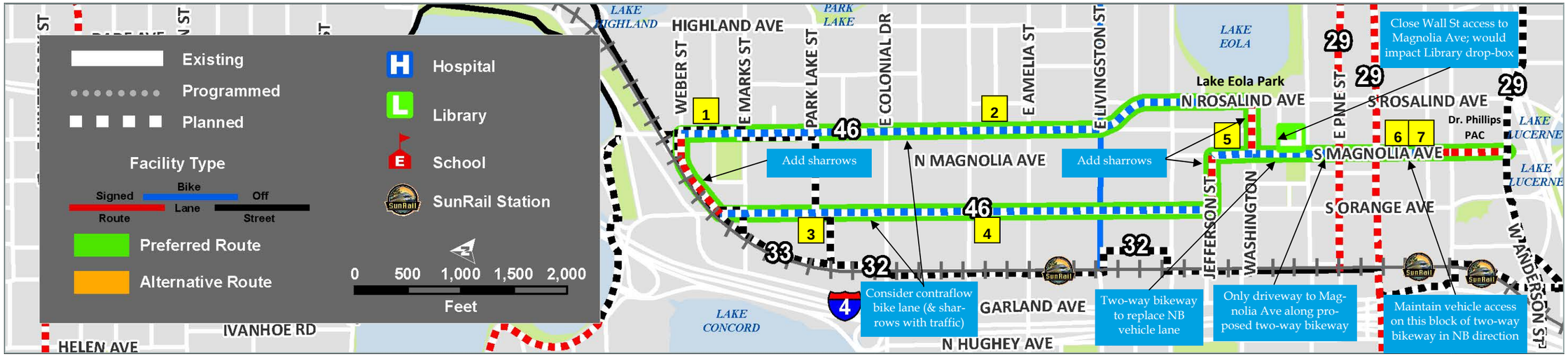
Opportunities:

- The concept provides the opportunity to expand bicycle mobility on more streets in Downtown Orlando by allowing for legal bicycle travel in both directions of two one-way north/south arterials (it must be noted that sidewalk bicycling is currently illegal per City code). This would make traveling to destinations easier without diverting multiple blocks to another street that provides travel in the desired direction.
- Would allow enhanced bicycle access to numerous destinations within the downtown CBD.
- Contraflow bike lanes avoid many of the conflicts experienced with the existing bike lanes, including conflicts with transit vehicles, "doorings", right hooks (motor vehicle turning right in front of a bicyclist continuing through in a bike lane), and screened left cross maneuvers (motor vehicle turning left across the path of a bicyclist in a bike lane because of their view was screened by other adjacent vehicles).
- The contraflow lane on Rosalind Avenue might optionally be extended further south to Anderson Street.
- The proposed two-way bikeway on Magnolia Avenue south of Jefferson Street could be enhanced at intersections to properly separate bike traffic by direction and prohibit unintended vehicle access on the bikeway by using narrow median islands. Two-foot wide concrete islands with flexible posts are an option for the median islands, as they would preserve most of the lane width for bike usage. The existing lane is approximately 11.5 feet, which would leave just under 5 feet in each direction from the median island to the edge of the two-way bikeway in each direction.
- Where on-street parking exists, the contraflow bike lane could be placed on either side of the parking lane, either between the curb and parked vehicles, or between parked vehicles and the leftmost travel lane. The benefit of the latter is that bikes would be on the passenger side of the car where there would be fewer potential conflicts with opening car doors. If placed between parking and the curb, additional buffering would be required so bicyclists would not be riding in the door zone of the driver side.
- Any on-street parking losses incurred may be able to be offset through the provision of additional off-street structured parking.
- The concept has no right-of-way impacts; all improvements would be within the existing roadway sections.

Issues:

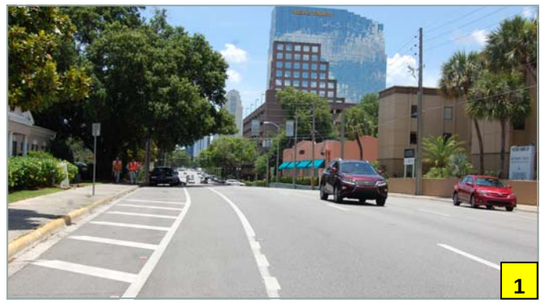
- Based on the North LYMMO Alternatives Analysis report, the recommended Locally Preferred Alternative (LPA) is proposed to utilize the Magnolia Avenue / North Orange Avenue couplet between Amelia and Weber Streets, operating with exclusive bus lanes in those sections.
- There is limited available space within the existing cross sections on the three lane sections of Orange Avenue and Rosalind/Magnolia Avenue to achieve a preferred section that would incorporate a contraflow bike lane without losing on-street parking on one side of the street. There is space available to establish a contraflow bike lane just by moving the location of the existing bike lane, but the lane would generally not have any additional buffer width to adjacent parking or to the opposing direction of traffic. For example, many traffic lanes are generally already 10 feet wide (the minimum typically recommended for a downtown arterial street) and could not be narrowed further to gain buffer space for the contraflow bike lane. Buffer space to the contraflow bike lane is preferred to minimize interaction with opening vehicle doors (if placed next to on-street parking), or to provide further separation if placed next to an oncoming traffic lane; sufficient buffer space for a physical separator is preferred, which requires a minimum of 2 feet.
- The two-way bikeway on Magnolia Avenue would result in the loss of two on-street parking spaces just south of Jefferson Street, which would no longer be accessible for motor vehicles.
- There is one driveway that provides access to the proposed two-way bikeway on Magnolia Avenue between Pine and Central Streets. However, this driveway is not currently actively used, but is chained off. Furthermore, the parking area has access to Pine Street. As such, the removal of the driveway access to Magnolia Avenue should not cause significant impacts.
- The southern portion of the proposed Magnolia Avenue two-way bikeway between South Street and Jackson Street currently provides two-way travel. Shared lane markings could be used on that block to continue the bikeway.
- The section of Magnolia Avenue between Jackson Street and Church Street provides access to multiple parking structures which would need to be maintained. In that section, an exclusive southbound bike lane could be provided by narrowing the existing median islands on the north and south ends of the block, with shared lane markings in the northbound direction.
- Wall Street between Rosalind and Magnolia Avenues is a one-way westbound roadway. With the proposed two-way bikeway on Magnolia Avenue, this roadway would need to be changed to a two-way street with a cul-de-sac just east of Magnolia Avenue to prevent vehicles from connecting to the exclusive bikeway. This change would cause an operational issue for the Library drive-thru drop box, which is currently accessed by drivers heading west; however, if the street was two-way, the drop box would be on the passenger side.
- Additional bicycle signals would be required in the contraflow direction since no signal indications are currently present in that direction. These signals could be post-mounted which would save on capital cost compared to using mast arm structures.

Figure 46-1: Downtown Urban Bikeways Overview Map





Example contraflow bike lane (Union Street, New York City) separated from the adjacent lane by a dashed double yellow stripe and placed adjacent to on-street parking.



Much of Magnolia Ave has three northbound lanes, a bike lane and on-street parking on both sides of the street.



A cyclist using the existing bike lane on Magnolia Ave south of Concord Street.



The majority of Orange Ave between Colonial Dr and Weber St has three southbound lanes, a bike lane and on-street parking on both sides of the street.



Orange Ave between Jefferson St and Colonial Dr generally has four southbound lanes and on-street parking on both sides of the street.



The north end point (Jefferson St) of the proposed exclusive two-way bikeway on Magnolia Ave, which would be converted from the existing single northbound lane .



The section of Magnolia Ave between Jackson St and Church St provides northbound access to parking garages, so the bikeway would be a shared lane northbound and an exclusive bike lane southbound.



To provide an exclusive southbound bike lane on Magnolia Ave between Jackson St and Church St would require narrowing the existing islands at the north and south ends of the block.

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Recommendations

The Orlando Primary Bicycle Routes Study provides a guide for funding and implementing a coordinated network of trails and primary bicycle routes. Ongoing stakeholder coordination is critical to the successful implementation and management of the growing Orlando area network of trails and family-friendly bicycle routes. The City of Orlando should continue efforts to work with partnering agencies and citizens of Orlando to refine alignments and address changing needs, opportunities and constraints.

Trail and corridor-specific implementation steps are included in each corridor concept summary in Section 5. Recommended general trail plan implementation steps include the following:

1. **Develop a City methodology to track projects that may provide opportunities to include design and/or construction of trail segments and trailheads.** Examples include:
   - City/County/State stormwater projects
   - City/County/State roadway projects (road widening or road diets), particularly those involving bridges or structures which should be designed to accommodate a trail where possible
   - Transit Projects (LYNX, SunRail)
   - Sidewalk or trail projects
   - Park improvements (for trailheads and corridor alignments)
   - Water management district projects or initiatives
   - Utility company projects
   - Private/public development or redevelopment, which can include trail development or incorporation as a condition of development approval
2. **Seek out opportunities for partnerships with other agencies.** Funding for trails is competitive and most grant applications include additional points for regional partnerships. Working with stakeholders and partner agencies will also ensure that all user needs are addressed and that issues such as maintenance, emergency access and trail safety are coordinated. Key partnering consideration include:
   - Partnering with transit agencies increases transportation options and expands transit access.
   - Working with school board agencies and crossing guards increases the usefulness of the trail corridors near schools and increases the opportunities for and safety of students and faculty who walk or ride bicycles to and from school.
   - Utility companies and the Central Florida Expressway Authority are critical partners in completing the City's primary trail network. The City should work with these agencies to understand or develop policies to incorporate trails. Trail segments will need to be reviewed and adjusted on a case-by-case basis to meet the needs of the agencies that own and manage these shared corridors. Look for opportunities to coordinate with these agencies that will improve the trail environment and user experience, such as undergrounding of utilities in conjunction with trail development, particularly if utility poles would otherwise require relocation.
   - Continue to communicate and plan trail connectivity with FDOT, Florida Office of Greenways and Trails, Orange County, Osceola County, and the adjacent cities, particularly for corridors that include multiple jurisdictions.
   - Partnerships are often possible with local businesses. There are several successful examples in the Orlando metro area that could be considered trail-oriented development, where the location of the trail directly benefits the adjacent businesses as well as the trail user.
   - Other partnership opportunities related to trails and bicycle routes may include advocacy groups, law enforcement, health departments and organizations, neighborhood associations, and community organizations. Neighborhood or homeowner associations in particular can have a role in maintaining landscaping for a trail, which is beneficial for the trail and can serve as a source of neighborhood pride.
3. **Initiate early coordination efforts for the planning and development of trail segments that are proposed to cross or be placed adjacent to rail corridors.** Coordination with entities such as FDOT and CSX will be needed to ensure project feasibility.
4. **Policies should be reviewed and updated to reflect goals and objectives of this plan, and other development codes should be reviewed to ensure compatibility and consistency.** Ideally, City, County and School Board policies should work in harmony so that the construction, management and maintenance of trails are regionally consistent. Specifically, the City should review and coordinate the following codes/policies:
   - Bicycle use on sidewalks (currently prohibited City-wide, even for minors)
   - Widening of sidewalks on local streets to accommodate a 10-foot wide trail versus signing and marking those streets as signed routes
   - Use and implementation of shared lane markings ("sharrows")
   - Open hours and potential alternate routing for nighttime use
   - School property access and improved connections (coordinate with Orange County Public Schools)
   - Wayfinding from trails/routes to school entrances and other destinations located within close proximity to the trail
   - Transit access
   - Developer requirements
   - Maintenance responsibilities for each parcel that a trail passes through
   - Maintenance frequency of trail and connecting bicycle lanes and sidewalks and associated costs
   - Funding source for ongoing long-term maintenance of trails and trail amenities such as benches, drinking fountains, paving, trash receptacles, signs, irrigation, and utilities, an important consideration as the City's trail network continues to expand
   - Security, as a component of the management plan for all trails
5. **Concept development and trail design should be context-sensitive to reflect the unique environment adjacent to the trail corridor.**

Trails should be designed to increase the "City Beautiful" image. Considerations include:

- Trail Width: Primary multi-use trails should be 12 feet wide and possibly wider, depending on the anticipated use of the trail segment. Neighborhood trail segments should typically be constructed at a reduced scale (minimum recommended trail width is 10 feet) to serve actual trail user needs and to better fit the surrounding character of the neighborhood. Sharrows are a preferred treatment on neighborhood and collector streets that comprise a signed bicycle route, and may also be used to provide connectivity to trails. While they may also be used to facilitate a near-term signed route completed in advance of the ultimate construction of a preferred trail corridor, they should not be considered a permanent substitute for the preferred trail route corridor.
- "Complete Streets" Elements: where a trail crosses a roadway or is placed adjacent to a roadway, features such as medians and channelizing islands, high visibility crosswalks, and placement of a tree-lined landscape buffer between a trail and adjacent parallel roadway help to enhance the environment and improve safety for trail users.
- Landscaping: particularly when existing sidewalks are widened and may consume the width of an existing landscape buffer, coordinate with City Parks to evaluate existing trees and landscaping and determine a long-term plan to restore the urban tree canopy.
- Coordinate primary trails planning with companion efforts such as Bike Share, Bike Stations, and signal timing (such as the potential to establish a "green wave" or trail platoon phase along an urban trail corridor such as the OUT through downtown Orlando) to ensure a fully connected and well-thought out system for pedestrians, bicyclists and transit users.
- Signage: signs and markings should be minimized and consolidated to reduce visual clutter. Provide markings or signage to provide information on distance, location and directional signage for trailheads, parks or other trail destinations. Consider providing directional signage to destinations along or just off the trail. Create a GIS-based emergency marker system for emergency personnel and city staff use, such as those currently used on Orange County trails like the Cady Way Trail.
- Opportunities for Art: Trails should be designed as a destination themselves. Signage, trail furniture and trail focal points provide an opportunity to incorporate art. Consider holding art competitions for trail "gateways".
- Trail Furniture: Seating and trash receptacles should be provided as needed to provide a resting area for trail users and minimize litter. Seating should be set back from the trail to allow the trail user to mount or dismount a bike without impeding trail traffic. Within urban settings, the streetscape/hardscape should be coordinated in terms of placement and arrangement of street furniture, light poles, signs, and utilities to facilitate the movement of trail users; some wide sidewalks with lower demand volumes can be designated as trails if they include a minimum clear width of at least 8 feet, and preferably 10 feet.



Even low retaining walls provide an opportunity for public art along trails, as incorporated along the Dinky Line section of the OUT.

- Lighting: Consider lighting urban sections of the trail. Provide lighting along trails used by students who travel prior to daylight (typically elementary and high schools) or by people traveling to transit destinations or work. Trailheads, tunnels, and tunnel-like areas (areas with significant tree canopy walls which block ambient light) should also be lighted.
- Materials: consider the use of semi-permeable material in areas with potential stormwater impacts to reduce run-off.
- Crime Prevention through Environmental Design (CPTED): Design trails to allow trail users visibility of their surroundings. Tree canopy is a desirable element for all trails but dense understory vegetation should allow filtered views from the trail. Tunnels and bridges should be designed to allow vertical and horizontal sight distance from one end to the other.
- Emergency Access: Trails should be designed to allow access for emergency vehicles and maintenance vehicles.
- Continue to review plans to eliminate utility encroachments and street furniture from the trail and trail clear zone.
- Create and enforce policies to ensure that trails, sidewalks and bike lanes are maintained and clear of obstructions. Provide alternate routes during construction activities that block the facilities.

6. **Work to incorporate programming and management of the built trail system, which is important to the trail user.** Successful trails lead to a demand for more trails and trail funding.

- Establish guidelines for trails programming to include group use by outside agencies and organizations (benefit walks and runs, walking clubs, in-line skaters, runners, bicycle clubs, walking school bus, seniors, etc.).
- Review possibilities to incorporate educational opportunities, art and healthy living concepts.
- Identify and understand trail user needs. Certain trail segments may require an alternate route for nighttime use to provide a lighted route. Use by college students may require additional lighting and surveillance. Use by seniors may require more frequent bench locations and restrooms. Bicycle and pedestrian crash

data should be reviewed frequently to address potential safety issues.

- Recognize and identify funding for trail maintenance activities, recognizing that as the number of trails increase, the costs of maintenance also increase. Funding opportunities may include sponsorships from adjacent businesses or local service groups.

7. **Continue to promote the trails program to all user groups.** Promotion ideas include:
   - Social media, websites, photo competitions, and news media.
   - Working with private businesses or groups such as bike shops, restaurants, hotels, bicycle clubs, running and walking clubs, etc.
   - Working with public agencies such as schools, LYNX, Visit Florida, FDOT, and SunRail.
   - Include Orlando trail images on City websites, LYNX buses, and promotional materials that promote area tourism and economic development.
8. **Aggressively pursue various funding opportunities to advance implementation of the City-wide trail and primary bicycle route network.** Opportunities include:
   - Use of the concept summaries for future grant applications.
   - Incorporate priority trail improvements into the City's Capital Improvement Program and amend the City's Comprehensive Plan with updated corridor alignments and recommended policies.
   - Continue to pursue MetroPlan Orlando funding, but research and apply for a wide variety of other grants and funding sources.
   - Advance key corridors with significant issues and implementation challenges for more detailed stand-alone feasibility studies. Corrine Drive is one example of an important corridor within the City for bicycle and pedestrian travel and connectivity, which has the potential for change and represents an opportunity to improve conditions for bicyclists and pedestrians. However, due to a number of complex issues and required multi-agency coordination, it is a corridor that needs a more detailed corridor feasibility study. A detailed corridor study would include identification of issues, constraints, and opportunities; review potential configuration options and typical sections; coordinate and build consensus among multiple agencies and numerous stakeholders; identify a preferred alternative; and propose implementation steps, a timeline, and a financing plan to move the potential corridor improvements forward.



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Appendix A – Preliminary Trail Network Assessment

Introduction

As part of the Orlando Primary Bicycle Routes Study, the first task is to complete a preliminary assessment of the existing and planned City of Orlando trail network. This document provides an assessment of the general coverage of the trail network and connectivity both within the City's boundaries and neighboring municipalities. The intent of the assessment is to ensure, on a regional and "big picture" level, that the proposed trail network adequately connects key facilities, activity centers, and community destinations, allowing bicyclists of all ages and abilities to make trips for recreation or transportation purposes. This initial network review provides a foundation for discussions and coordination with stakeholders and agencies as we begin to focus on specific corridors and trail feasibility details. It also will identify any significant network gaps or additional areas or corridors for further evaluation.

General Findings

The City of Orlando is successfully planning a trails network to serve recreational trail user needs. The "Primary Routes" outlined in the City-Wide Trail Plan serve as the core network for a family-friendly, paved, multi-use trail network. The City has worked (and is continuing to work) with Orange County, the City of Winter Park, FDOT, LYNX, Orlando Utility Commission, Florida Power and Light, Duke Energy, SunRail, GOAA and private developers to develop a master trail plan to serve area residents and visitors. Based on our preliminary review, the following findings describe the coverage and connectivity of the proposed City trail network, both within the City boundaries and with adjacent municipalities and other nearby proposed projects:

- The State of Florida planned Coast to Coast Connector Trail has gained momentum over the last year and existing trail gaps along its proposed route will be closed as funding becomes available. When complete, this proposed 275-mile long trail that will link the Gulf Coast to the Atlantic Ocean through Central Florida will attract Florida residents and visitors from around the world, presenting a significant economic impact through increased tourism and new development opportunities. While the proposed Coast to Coast Connector does not pass directly through Orlando, it is important that the City's network provide linkages that allow users of this statewide trail to connect to Orlando as a trail destination to take advantage of all the City Beautiful has to offer. The closest regional trail segment that is part of the Coast to Coast Connector is the West Orange Trail. The City's network is proposed to be indirectly connected to the West Orange Trail via Orange County's Pine Hills Trail (which includes a short section with the City) and Clarcona-Ocoee Trail.
- Orange County recently updated their Trails Master Plan and many of the planned trails connect to the City of Orlando. The City of Orlando plan reflects Orange County's Trail Master Plan and the Primary Trails are planned for connection to the Orange County network.
- The City's network is well connected to the neighboring City of Winter Park, providing two primary connections: the Orlando Urban Trail to Mead Garden, and the Lake Baldwin Trail and adjacent connection to the Cady Way Trail.

- The City has worked with SunRail and Lynx to incorporate the trail system into the existing and planned transportation system. The Orlando Urban Trail plan exemplifies this coordination and connectivity as it provides direct connections or spurs to all four SunRail stations within the City.
- The City has identified the most critical trail corridors needed to serve existing and future trail users. Trail alignments generally take advantage of "low hanging fruit" such existing easements along canals, within utility corridors, and along roadways with sufficient right-of-way. Trail alignments generally connect to community destinations to the extent possible along the alignments shown on the City Trail Plan, however, direct connections are not provided to all schools, parks, and other nearby destinations.
- Some areas south of the City core and west of the Orlando International Airport appear to have few primary trail connections. The majority of this area is within unincorporated Orange County.

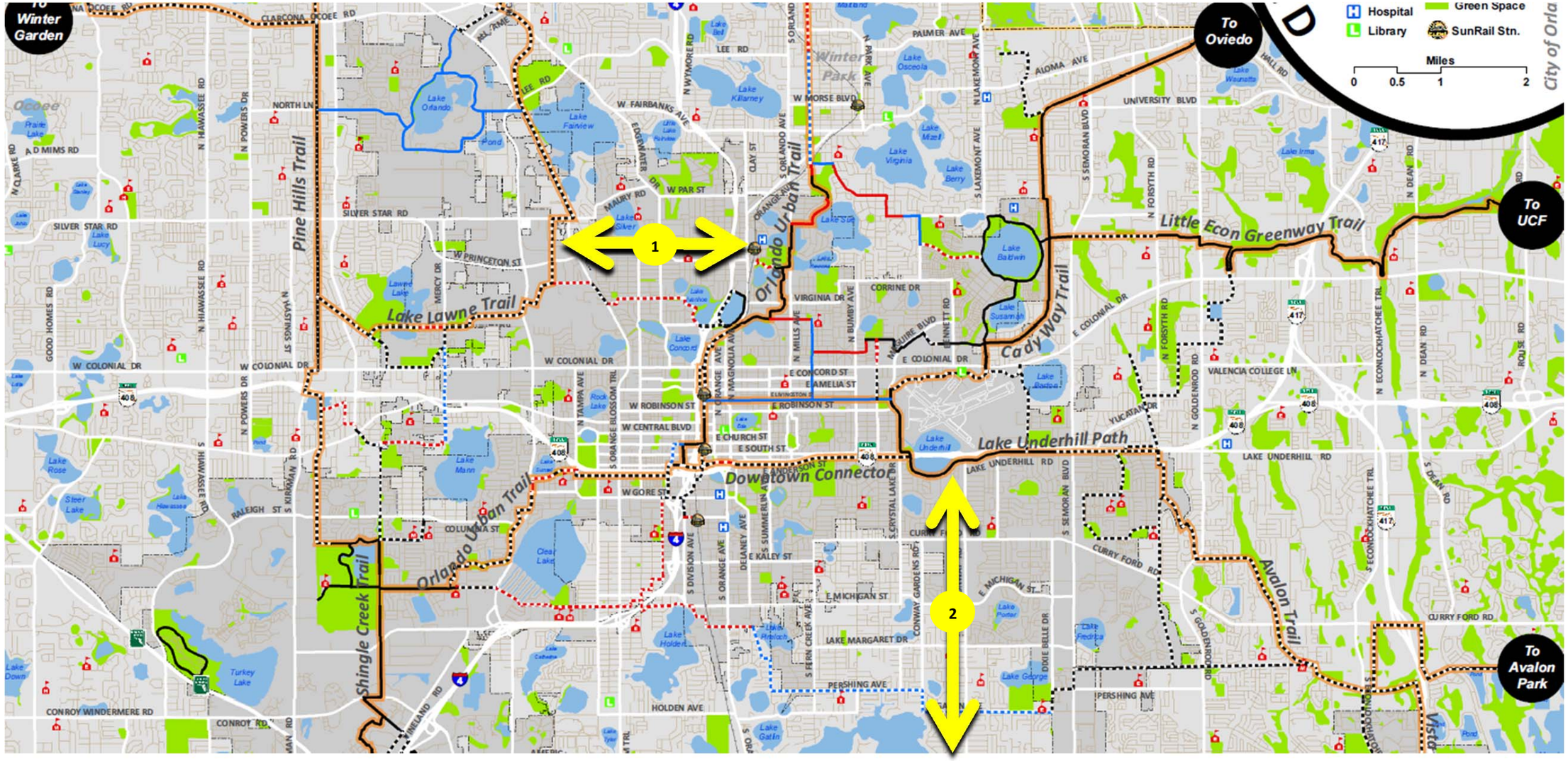
Recommendations

Based on the preliminary trail network assessment, the following general recommendations are offered to help guide the completion of the Primary Bicycle Routes Study and continued trail network development in the City. **Figures 1 and 2** illustrate existing gaps in the network and potential new connections in the northern and southern halves of the City Trail Plan, respectively.

- The City should continue efforts to connect the Orlando Trail system to the Coast to Coast Connector. Multiple primary route connections to the Pine Hills Trail will allow more choices for trail users. Establishing a primary route between the Orlando Urban Trail and the Lake Lawne Trail would also help provide this additional connectivity to the statewide trail (see #1 on **Figure 1**) via the County's Pine Hills Trail and Clarcona-Ocoee Connector Trail.
- Continue to work with partnering agencies and private developers to develop and connect the primary trail system to the surrounding neighborhoods, schools, parks, SunRail and the many landmarks that form Orlando's identity. Work with MetroPlan Orlando to appropriately prioritize key connections within the City trail network, including raising the priority for segments that most effectively close gaps to regional and statewide connections.
- Continue to establish connections to SunRail Stations and major transit hubs. Connections to locations such as park and ride lots, Lynx superstops, and/or SunRail shuttle locations should be developed as primary routes, if feasible, to enhance connectivity to and encourage use of the trail network.
- Continue to plan and develop trails that connect with Orange County and the City of Winter Park.
- Coordinate with Orange County and review potential for new east-west and a north-south connectors west of Orlando International Airport (OIA) and south of downtown (see #2 and #3 on **Figures 1-2**). Coordinate on potential for north-south spur connector from Meadow Woods Trail to Meadow Woods SunRail station (see #5 on **Figure 2**).

- Review the areas within one-quarter mile of all trail corridors to assess connections to community destinations within that range. New trail connectors, where needed to provide indirect connections to primary routes, should be included in trail assessments, recommendations, and cost estimates.
- Coordinate with GOAA to ensure maximum connectivity of trails within OIA and Orlando Executive Airport (OEA), including a potential trail connecting the Meadow Woods Trail/Boggy Creek Trail to the proposed Intermodal Terminal Complex (and future South Terminal) at OIA (see #4 on **Figure 2**).
- Assess whether sufficient enhancements can be made to allow the proposed connections between the OUT and the Orlando Health/Amtrak SunRail Station to be included as a primary route. Similarly, assess whether the proposed east-west crosstown connector south of downtown between the County's Avalon Trail and the City's Shingle Creek Trail can be enhanced as a primary route.
- Create GIS locations for Phase 1 of the proposed City Bike Share program for inclusion in future planning efforts, and consider including proximity to bike share locations as a criterion in the trail prioritization.

Figure 1 – Identified Gaps and Potential New Connections (North Area)


To Winter Garden
To Oviedo
To UCF
To Avalon Park
Hospital
Library
Green Space
SunRail Stn.
Miles
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City of Orla
Pine Hills Trail
Orlando Urban Trail
Lake Lawne Trail
Little Econ Greenway Trail
Cady Way Trail
Lake Underhill Path
Downtown Connector
Avalon Trail
Shingle Creek Trail
1
2
CLARCONA OCOEE RD
NORTH LN
LEE RD
W FAIRBANKS AVE
W MORSE BLVD
PALMER AVE
ALOMA AVE
UNIVERSITY BLVD
A D MIMS RD
SILVER STAR RD
W PAR ST
W PRINCETON ST
VIRGINIA DR
CORRINE DR
E COLONIAL DR
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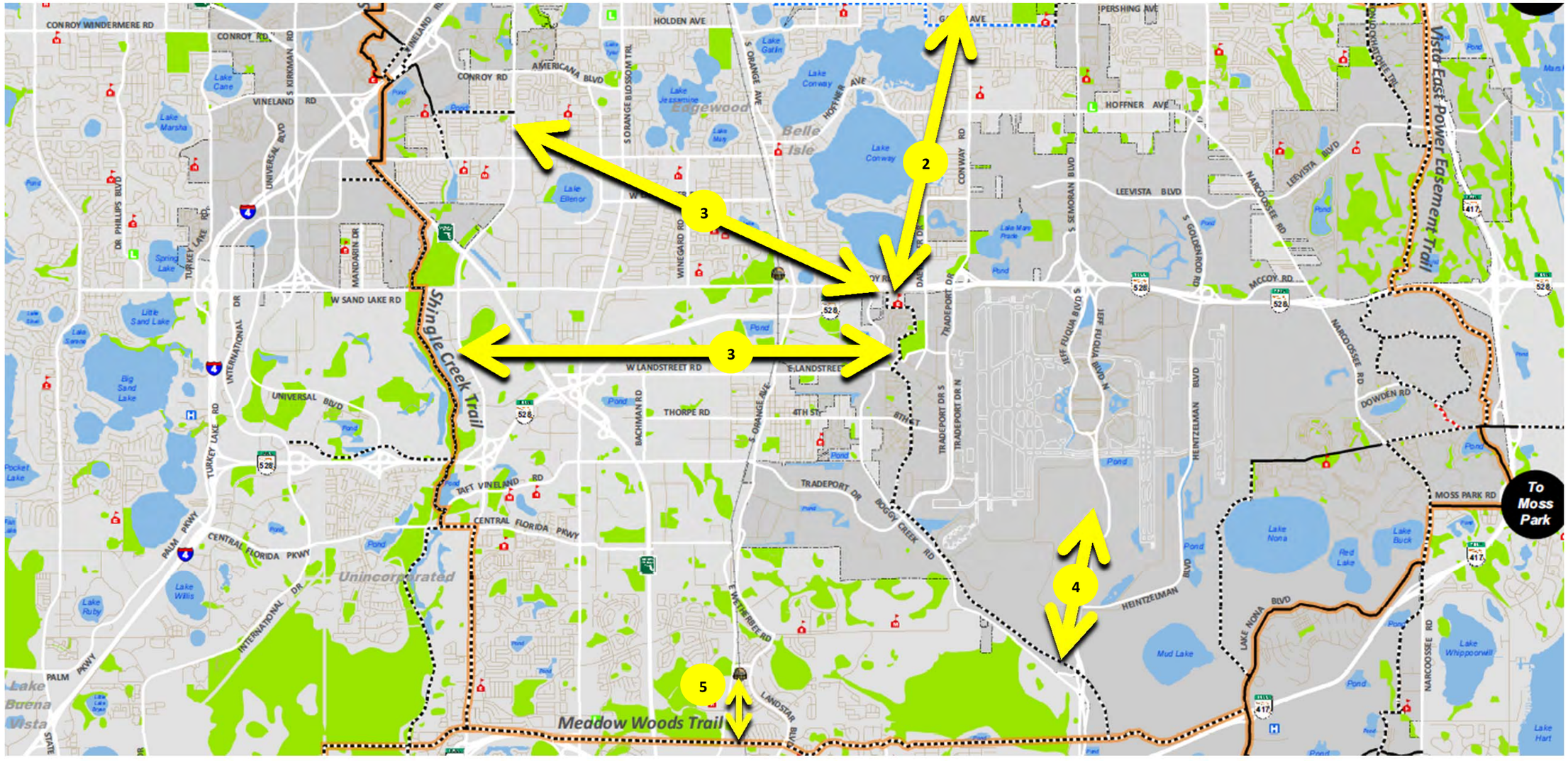
VALENCIA COLLEGE LN
E CONCORD ST
E AMELIA ST
E ROBINSON ST
W ROBINSON ST
W CENTRAL BLVD
E CHURCH ST
E SOUTH ST
W GORE ST
LAKE UNDERHILL RD
E KALEY ST
E MICHIGAN ST
CURRY FORD RD
LAKE MARGARET DR
PERSHING AVE
HOLDEN AVE
CONROY WINDERMERE RD
CONROT RD
RALEIGH ST
COLUMBIA ST
Lake Underhill
Lake Orlando
Lake Fairview
Lake Killarney
Lake Osceola
Lake Virginia
Lake Mae
Lake Berry
Lake Lucy
Lake Silver
Lake Concord
Lake Baldwin
Lake Susannah
Lake Rose
Steer Lake
Lake Hiawassee
Lake Mann
Clear Lake
Turkey Lake
Lake Holden
Lake Gatlin
Lake Irma
Lake Waunatta
Lake Estelle
Lake Fredrica
Lake George
Lake Down
Lake Cathedral
Lake Tyler
Lake Hoboken
Lake Porter
Lake Bell
Lake Lawsona
Lake Lancaster
Ocoee
Prairie Lake
Pond
Rock Lake
Lake Sunset
Lake Davis
Lake Lorna Doone
Lake Lawsona
Lake Ivanhoe
Lake Sue
Lake Underhill
Lake Bentley
Lake Lawsona
Lake Lancaster
Lake Lawsona
Lake Lancaster
Lake Lawsona
Lake Lancaster

Figure 2 – Identified Gaps and Potential New Connections (South Area)



Trail Network Connectivity Review

The Citywide Trail Plan was reviewed in terms of its coverage and connectivity, beginning with proposed statewide and regional trails, and then working inward to connectivity to neighboring municipalities, and finally to assess coverage and connectivity of the proposed trail network within the City boundaries to community destinations across the City.

Connecting to the Statewide Trail System

Findings

The Office of Greenways and Trails (OGT) has developed a Statewide list of Priority Trails as part of the Florida Greenways and Trails System Plan (see **Figure 3**). This plan shows priority projects for 2012.

Figure 3 – Florida Greenways & Trails System Plan 2012



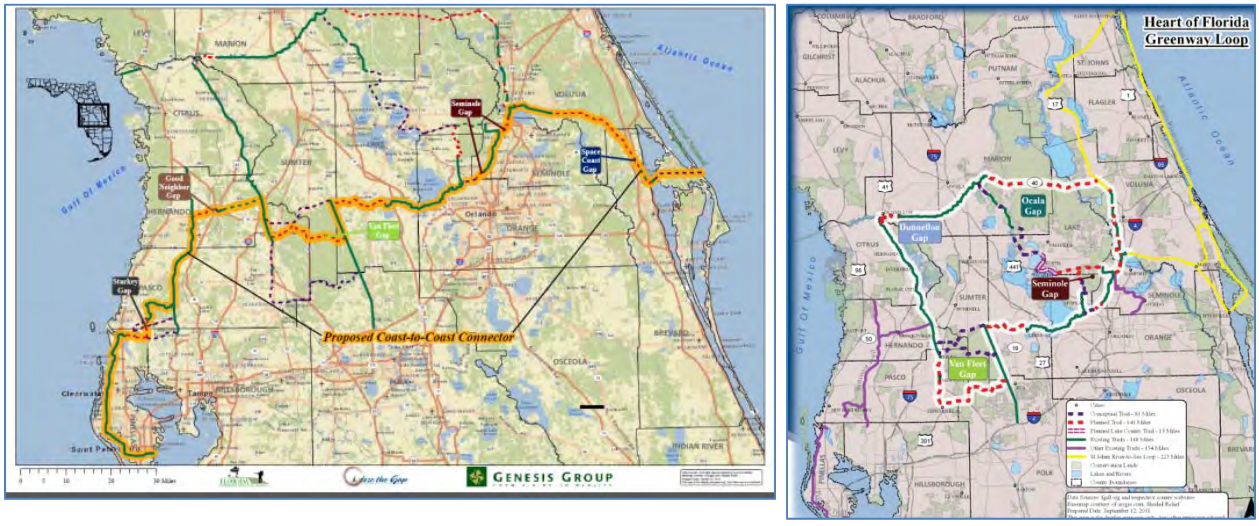
A review of the regional and local level trail opportunities in the OGT plan reveals that several of the proposed trail corridors from Citywide Trail Plan are incorporated, but new trail corridors within the City have not been identified. The relevant pages from the Florida Greenways and Trails System Plan showing 2012 Land Trails Opportunities within Central Florida and the City of Orlando are included in the **Appendix** (Source: http://www.dep.state.fl.us/gwt/FGTS_Plan/PDF/LANDTRAILS_MapBook.pdf).

Recent planning efforts through the *Florida Greenways and Trails Foundation* have shifted the prioritization of trail projects to focus on closing the gaps in the state-wide trail system.

The statewide trail system, which is shown in **Figure 4**, includes the following two primary alignments in Central Florida:

- The Coast to Coast Connector (http://fgtf.org/maps/ctc/overall-ctc-24x36.pdf)
- The Heart of Florida Greenway Loop (http://fgtf.org/maps/hof/overview.pdf)

Figure 4 – Coast to Coast Connector and Heart of Florida Greenway Loop Alignments



Larger scale maps of the two statewide trail alignments are provided in the **Appendix**.

Because the proposed statewide trail alignments do not pass directly through Orlando, the closest regional trail segment that is part of the Coast to Coast Connector is the West Orange Trail. The City's network is proposed to indirectly connect to the West Orange Trail via Orange County's Pine Hills Trail and Clarcona-Ocoee Trail. Existing and proposed City trails that will provide an indirect connection to the statewide trails via the County's trails are the Shingle Creek Trail and the Lake Lawne Trail.

Connecting the City's network to the statewide trails will also lead to opportunities for longer connections within the state and along the east coast of the United States. The Coast to Coast

Connector and Heart of Florida Greenway Loop systems are connected to the East Coast Greenway, a national trail that is planned to ultimately span nearly 3,000 miles from Canada to Key West, Florida linking all the major cities of the eastern seaboard (source: http://www.greenway.org/images/FL.jpg). The **Appendix** includes a map of the proposed East Coast Greenway.

Recommendations

- Continue work to connect the City trails to the statewide trails and connect the trail system within the City to make the City of Orlando a destination for trail users.
- Look for potential additional trail corridors that would provide closer connections to the Coast to Coast Connector for more areas of the City; an example would be a primary connection between the Orlando Urban Trail and the Lake Lawne Trail, north of downtown.
- Continue to pursue partnerships with adjacent agencies to develop and fund a connected trail system. Work with MetroPlan Orlando to appropriately prioritize key connections within the City trail network, including raising the priority for segments that most effectively close gaps to regional and statewide connections.
- Continue to support state and regional efforts to "close the gaps" in the Central Florida trail network, including the indirect linkages to the City's trail network. Give a higher priority to City trail segments that provide an indirect connection to the statewide trails.

Connecting to the Regional Trail System

Findings

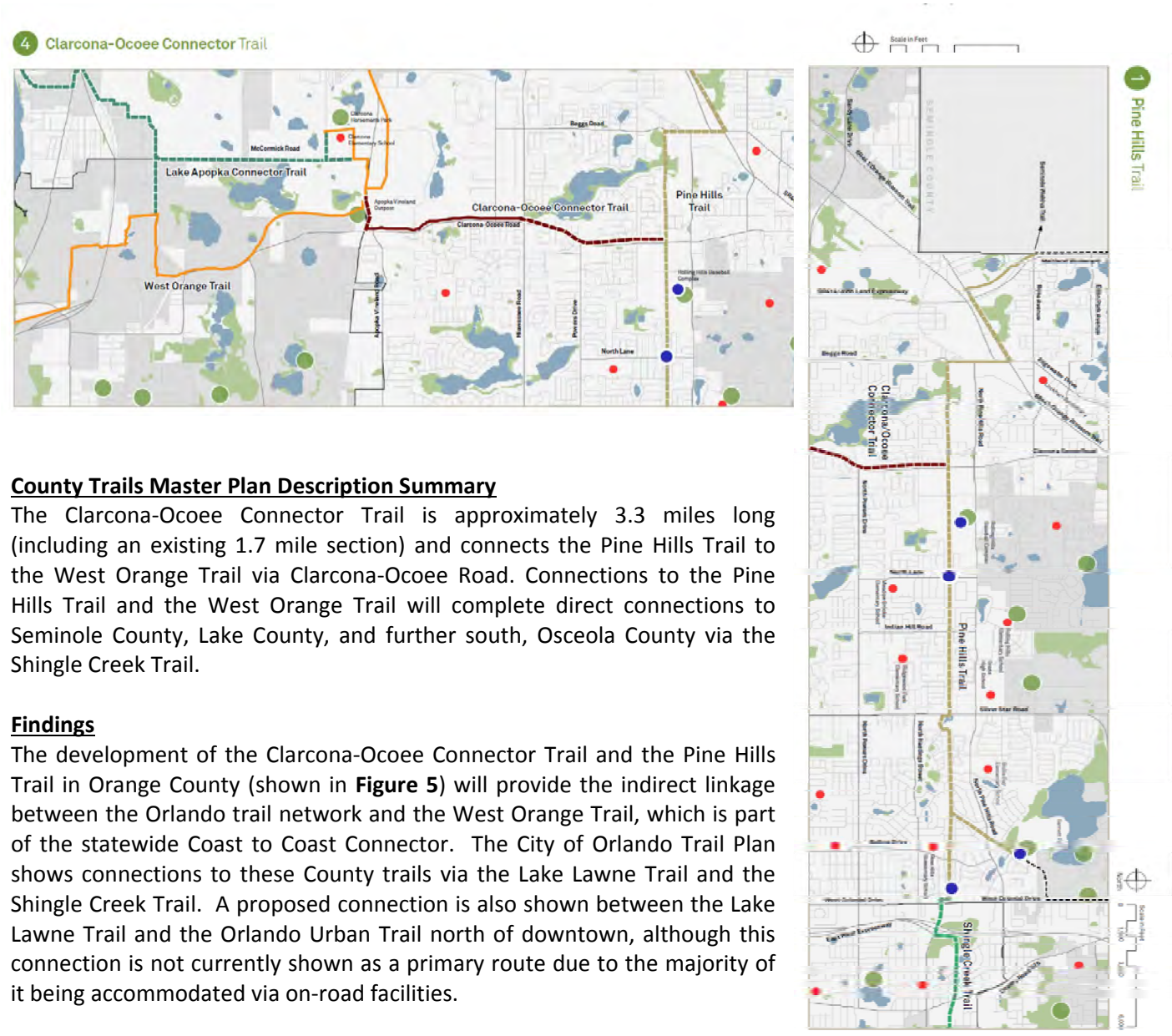
MetroPlan Orlando develops and maintains a priority project list for the funding of transportation projects through the Florida Department of Transportation, including bicycle and pedestrian projects. MetroPlan's jurisdiction includes Orange, Seminole and Osceola Counties. The City of Orlando Shingle Creek Trail Phase 2 is ranked 9th and the Orlando Urban Trail bridge over SR 50 is ranked 10th in the FY 2018/19 – 2029/30 Prioritized Project List for Bicycle and Pedestrian Projects (approved September 11, 2013) . Further, the proposed Orange County Trail connections that will link between the City's trail network and the Coast to Coast Connector (Pine Hills Trail Phase 3 and Clarcona-Ocoee Trail) are currently shown at the top of the Bicycle and Pedestrian Projects list without priority numbers since they are candidates for special funding that could become available and will not be competing for Surface Transportation Program funds (SU) with other projects on the priority list.

Orange County updated their Trails Master Plan in 2012. Many planned trails connect to the City of Orlando's existing or planned trail system. Planned Orange County Trails that connect to the City of Orlando are included in this report with images of the proposed trail map and edited versions of the trail description from the Trail Master Plan document.
(source: http://www.orangecountyfl.net/CultureParks/Trails.aspx)

Proposed trail projects within the City and connecting outward to other municipalities were further assessed based roughly on the quadrants established for work in this Primary Bicycle Routes Study at the meeting with the City on November 11, 2013.

West Area - Clarcona-Ocoee Connector Trail and Pine Hills Trail

Figure 5 – Clarcona-Ocoee Connector Trail and Pine Hills Trail



County Trails Master Plan Description Summary

The Clarcona-Ocoee Connector Trail is approximately 3.3 miles long (including an existing 1.7 mile section) and connects the Pine Hills Trail to the West Orange Trail via Clarcona-Ocoee Road. Connections to the Pine Hills Trail and the West Orange Trail will complete direct connections to Seminole County, Lake County, and further south, Osceola County via the Shingle Creek Trail.

Findings

The development of the Clarcona-Ocoee Connector Trail and the Pine Hills Trail in Orange County (shown in **Figure 5**) will provide the indirect linkage between the Orlando trail network and the West Orange Trail, which is part of the statewide Coast to Coast Connector. The City of Orlando Trail Plan shows connections to these County trails via the Lake Lawne Trail and the Shingle Creek Trail. A proposed connection is also shown between the Lake Lawne Trail and the Orlando Urban Trail north of downtown, although this connection is not currently shown as a primary route due to the majority of it being accommodated via on-road facilities.

The Pine Hills Trail and the Clarcona-Ocoee Connector Trail were ranked as the number 3 and 11 County

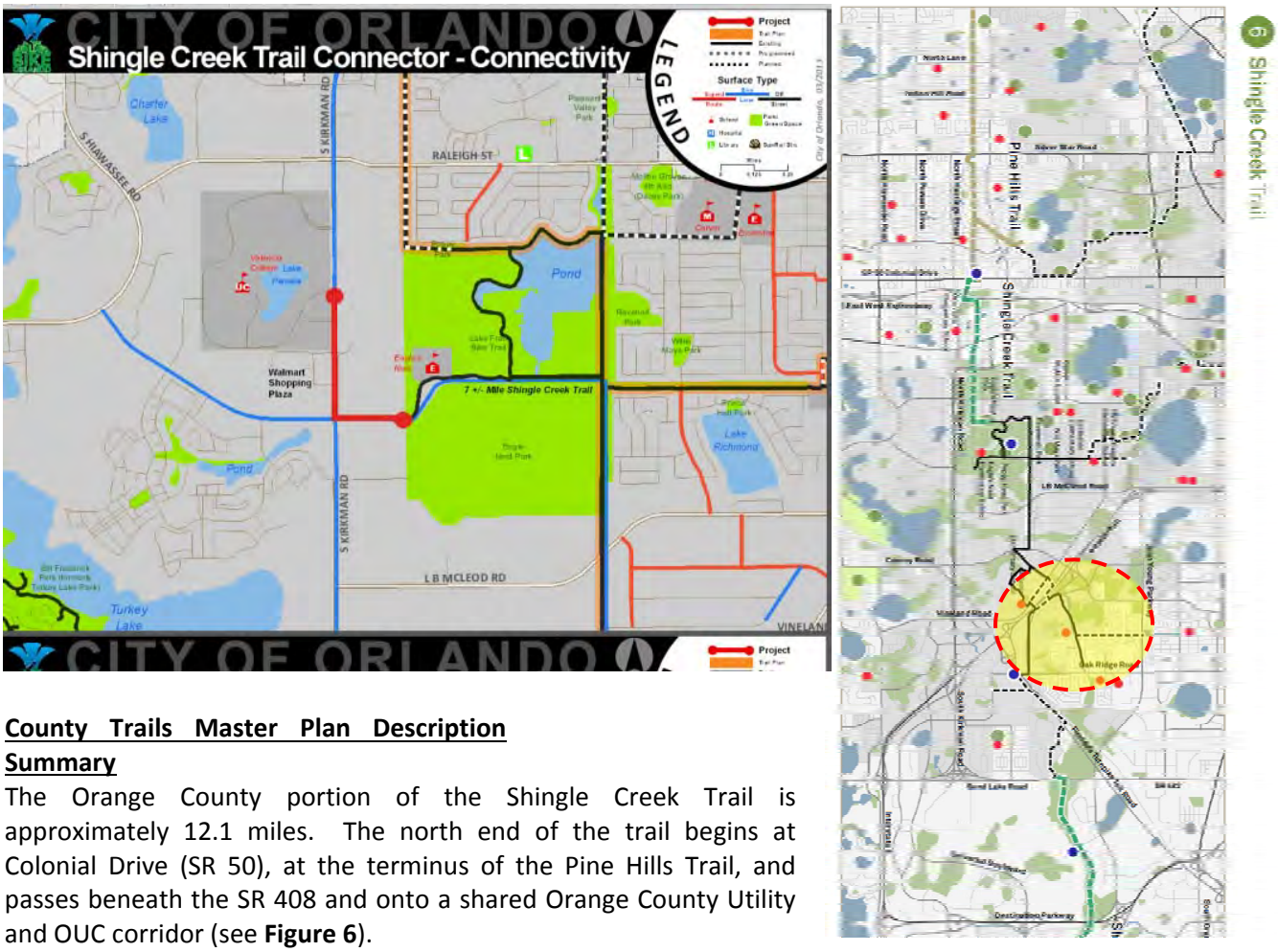
trail priorities, respectively, based on the County Trails Master Plan. However, as previously noted, the priority of both trails has been made very high with the acceleration of the effort to complete and connect to the statewide Coast to Coast Connector.

Recommendations

- Review the possibility of providing an additional connection to the Pine Hills Trail to provide increased connectivity to the regional trails system.
- Review the possibility of a primary route connecting east-west between the planned Lake Lawne Trail and the Orlando Urban Trail, potentially with a direct connection to the Florida Hospital SunRail Station.

West Area – Shingle Creek Trail

Figure 6 – Shingle Creek Trail and Shingle Creek Trail Connector



County Trails Master Plan Description Summary

The Orange County portion of the Shingle Creek Trail is approximately 12.1 miles. The north end of the trail begins at Colonial Drive (SR 50), at the terminus of the Pine Hills Trail, and passes beneath the SR 408 and onto a shared Orange County Utility and OUC corridor (see **Figure 6**).

The trail continues south to the City of Orlando's existing segment at Eagle Nest Park and President Barack Obama Parkway to Conroy Road and then to the Festival Bay Mall where the trail temporarily ends.

At this time, the City of Orlando has the segment from Festival Bay Mall to Sand Lake Road under design. The City also has submitted a grant application to MetroPlan Orlando for the Shingle Creek Trail Connector that would link the Shingle Creek Trail to Valencia College (West Campus) via Metrowest Boulevard and Kirkman Road.

Findings

The alignment of the Shingle Creek Trail is mostly finalized. One section of the trail near I-4 and Vineland Road shows multiple routes. At one time, this area was considered for a light rail location.

Recommendation

The segment between I-4 and Conroy Road needs to be reviewed for the final alignment and potential development of trail spurs (see highlighted area in **Figure 6**).

Central Area – Orlando Urban Trail Gap and Connectivity

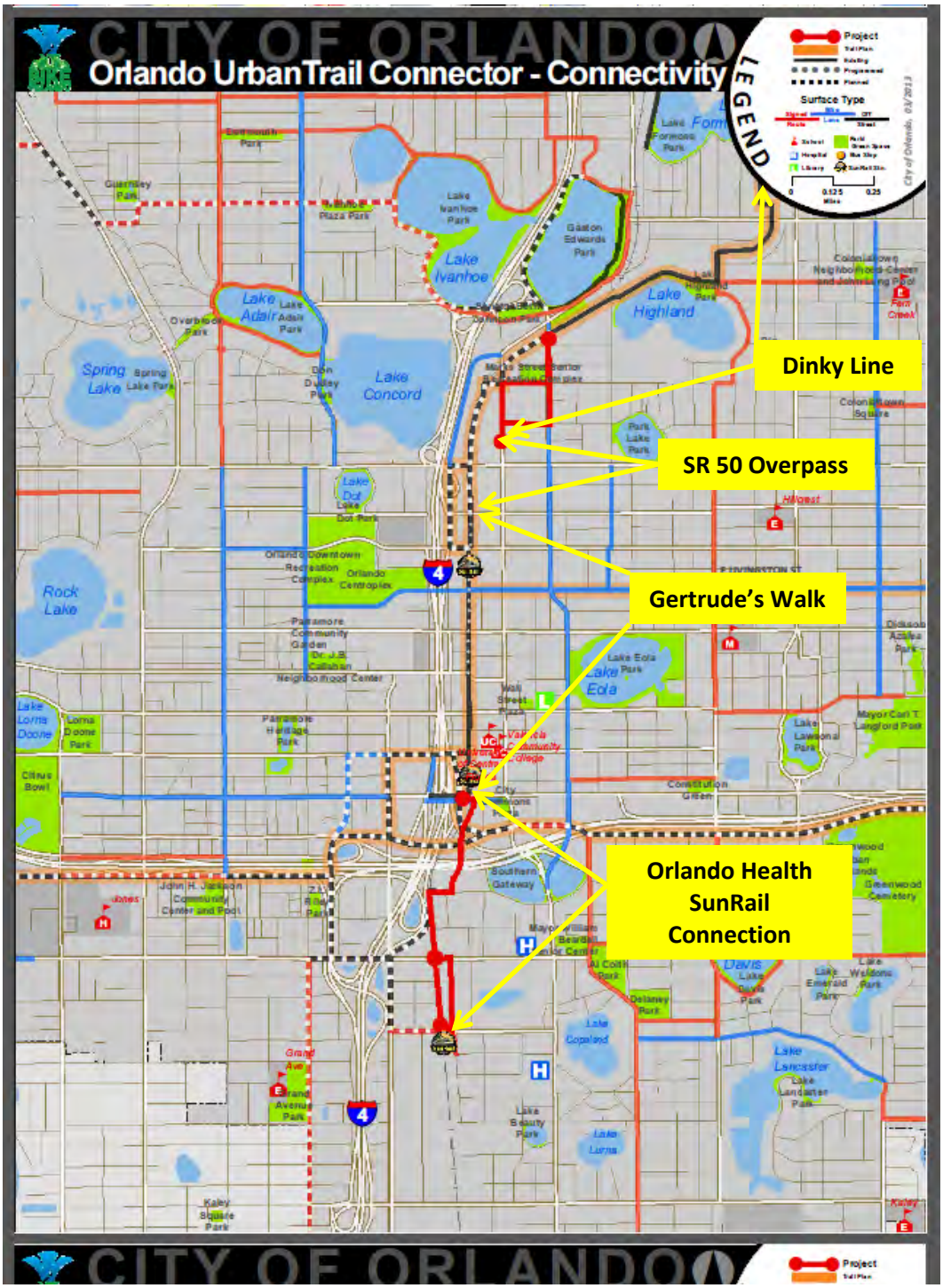
Finding

The Orlando Urban Trail (OUT) Gap and Connectivity Plan (**Figure 7**) provides connectivity between the Gertrude's Walk and the Dinky Line sections of the OUT. The planned overpass over Colonial Drive will enhance connectivity into and out of downtown. Proposed connections to the Orlando Health/Amtrak SunRail Station will provide an important transportation function by enhancing access to the regional transit system; however, the connections proposed are not currently shown as primary routes on the City Trail Plan.

Recommendations

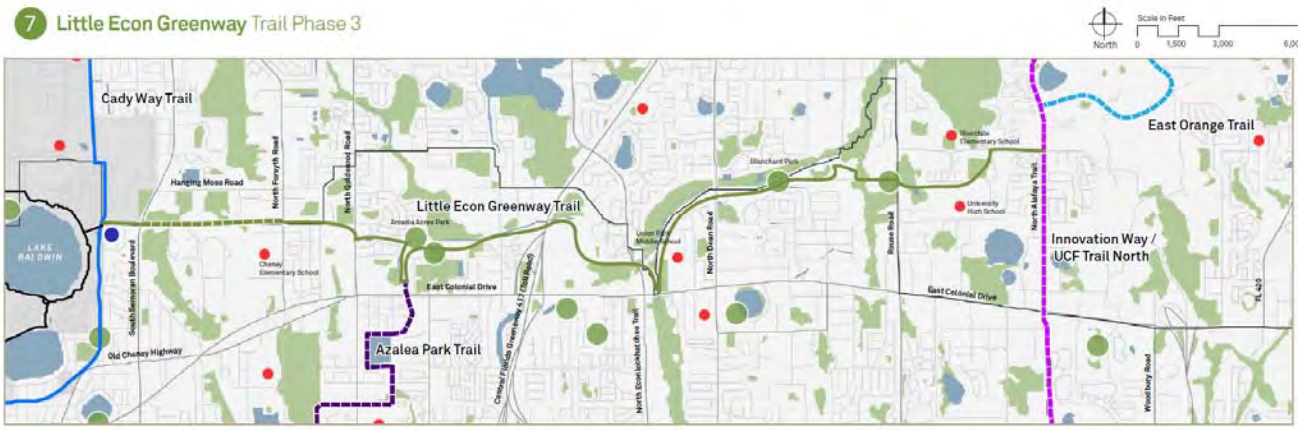
- The Orlando Urban Trail Plan should serve as the central spine for the Citywide trail system, with other trails connecting to this corridor to the maximum extent possible.
- Assess whether sufficient enhancements can be made to allow the connections between the OUT and the Orlando Health/Amtrak SunRail Station to be included as a primary route.

Figure 7 – Orlando Urban Trail Connectivity



Central Area – Little Econ Greenway Trail / Avalon Multi-Use Trail / Azalea Park Trail

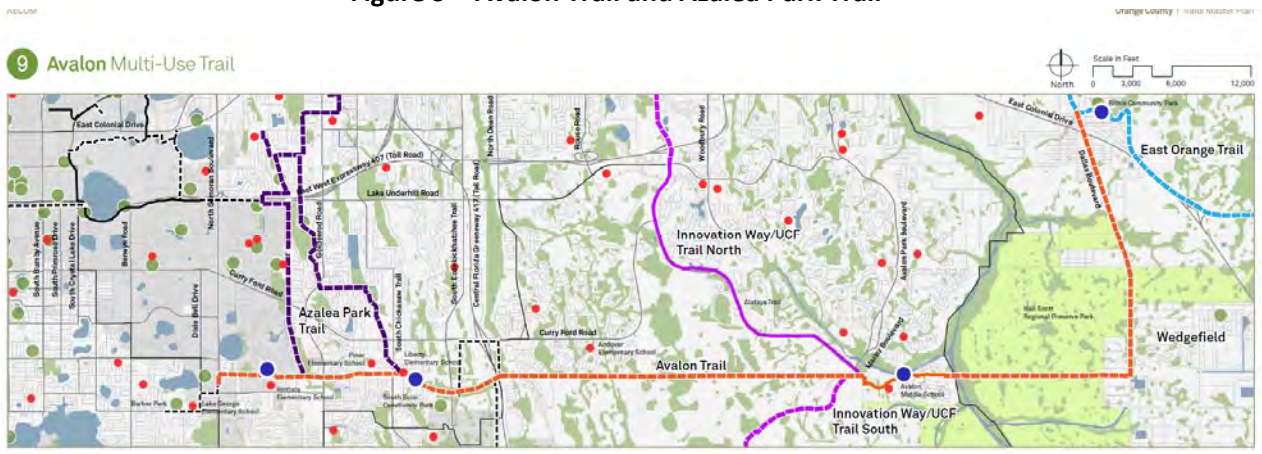
Figure 8 – Little Econ Greenway Trail



County Trails Master Plan Description Summary

The Little Econ Greenway Trail (**Figure 8**) is approximately 8.5 miles long and is almost entirely completed along Orange County stormwater banks from Alafaya Trail to SR 436/Semoran Boulevard. The remaining segment to be constructed (Phase 3) is approximately 1 mile long and spans from Forsyth Road to Semoran Boulevard with a bridge over Semoran Boulevard. Construction of this short segment is the only impediment to completing the trail which will connect to the Cady Way Trail and then north to the Cross-Seminole Trail, creating a network of trails 21 miles long.

Figure 9 – Avalon Trail and Azalea Park Trail



County Trails Master Plan Description Summary

The proposed Avalon Trail (**Figure 9**) is approximately 16.3 miles long and is comprised of two legs. The longest leg is proposed along an east/west alignment within an OUC power line corridor extending from the community of Wedgefield, west to the City of Orlando and SR 436/Semoran Boulevard.

The Azalea Park Trail is approximately 7.5 miles long and connects the Avalon Trail to the Little Econ Greenway Trail. The alignment utilizes a combination of OUC power line and Orange County drainage banks. In the southern half of the trail, between the Avalon Trail and Lake Underhill Road, there are two alternative routes. Alternative Route A utilizes an OUC easement; whereas, Alternative B utilizes an Orange County drainage way corridor. At Lake Underhill Road, Alternative A utilizes roadway right-of-way to reach an underpass of SR 408 at Oxalis Avenue and then continues north toward the Little Econ Greenway Trail via OUC drainage banks.

Findings

The Little Econ Greenway Trail gap closure will provide a complete and direct connection to the Cady Way Trail and the City's proposed Downtown Connector (via the Azalea Park Trail). This will provide a regional east-west connection and increase trail access.

Orange County's Avalon Trail connects to the City of Orlando and a proposed east-west crosstown route to the junction of the Shingle Creek Trail and Orlando Urban Trail near John Young Parkway; however, this route is not currently designated as a primary route because a substantial portion consists of proposed on-road facilities.

The Avalon Trail also connects to the Azalea Park Trail, which connects the City's proposed Lake Underhill Path and Downtown Connector.

Recommendation

Review potential for enhancements that may allow the crosstown connection between the Avalon Trail and the Orlando Urban Trail/Shingle Creek Trail junction to be designated as a primary route.

Southeast Area – Meadow Woods Trail / Lake Nona Trail Network

Figure 10 – Meadow Woods Trail

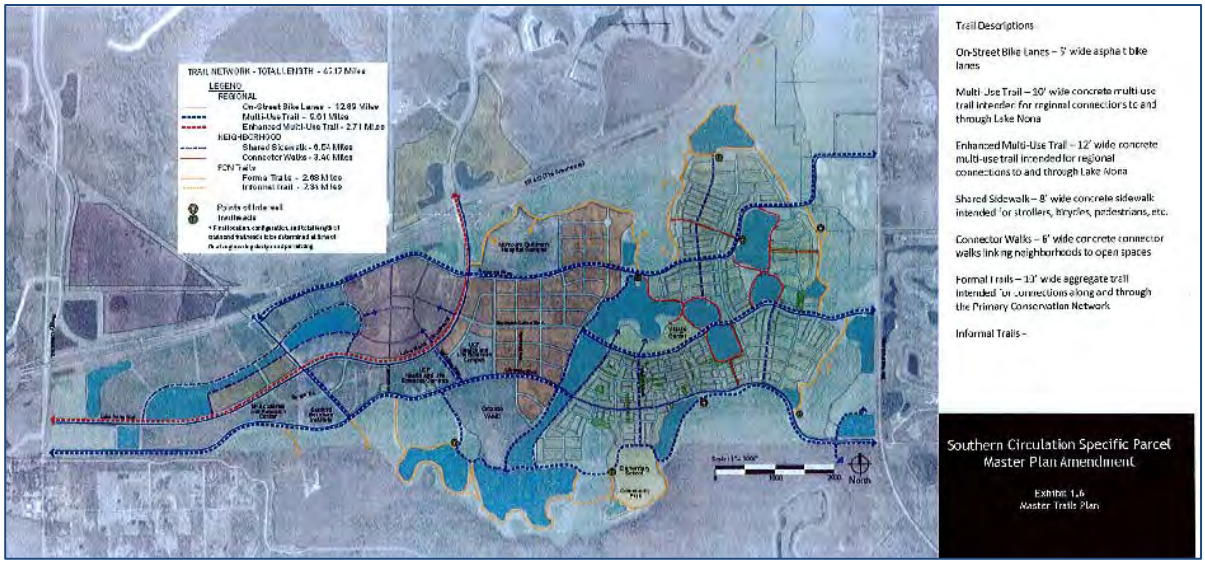


County Trails Master Plan Description Summary

The Meadow Woods Trail (**Figure 10**) is approximately 9.5 miles long and primarily utilizes an existing OUC power line corridor which includes Orange County Utility water and reclaimed waterlines along

much of the way. The corridor extends from Lake Nona Boulevard west to the John Young Parkway and links to the Shingle Creek Trail. Portions of the corridor are within Orlando city limits.

Figure 11 – Lake Nona Trail Network



Findings

The Meadow Woods Trail connects the existing and planned Lake Nona trails system (**Figure 11**) and to the Shingle Creek Trail.

The Lake Nona development lies within the City of Orlando, and its connected, tiered trail system is shown in the City Trail Plan. The City plans to connect to the east side of the Lake Nona trail system along Narcoossee Road, north to the existing and planned east-west trail that runs along the gas easement just north of Lake Nona Club Drive / Nonacrest Drive. A connection is proposed around the west side of Lake Nona along the Lake Nona / Orlando International Airport boundary that will provide a loop back to the existing trail along Lake Nona Boulevard.

The Meadow Woods Trail connects to the planned trail along the east side of Boggy Creek Road. In terms of regional connectivity, there are three significant gaps in this area, as follows:

- There is no connection currently proposed from the Meadow Woods Trail / Boggy Creek Road Trail north to the proposed Intermodal Terminal Complex (and future South Terminal) at Orlando International Airport.
- An east-west gap between the Boggy Creek Road Trail and the Shingle Creek Trail.
- A north-south gap between the Boggy Creek Road Trail and the Downtown Connector / Lake Underhill Path.

The areas that make up the latter two gaps are largely within unincorporated Orange County

Recommendations

- Coordinate with GOAA on a potential north-south connection from the Meadow Woods Trail to the proposed Intermodal Terminal Complex (and future South Terminal) at Orlando International Airport.
- Review potential for trail spur from the Meadow Woods Trail that would connect to the Meadow Woods SunRail Station. Coordinate with Orange County.
- Review the potential for an additional east-west connector from the Boggy Creek Road Trail to the Shingle Creek Trail and for an additional north-south connector between the Boggy Creek Road Trail and the Downtown Connector. Coordinate with Orange County.

Connecting to Proposed Bike Share

The City of Orlando is working to implement a bike share program to increase transportation options in the Orlando area.

Findings

The first phase of the system is proposed to include 200 bikes at 30 downtown stations, to be up and running by the time SunRail begins service. Two potential further phases would expand the system to a total of 1,000 bikes with locations expanding out from downtown. The 30 locations proposed for Phase 1 are shown in **Figure 12**, with details listed in **Table 1**.

Recommendations

- Create GIS locations for Phase 1 of the Bike Share program for inclusion in future planning efforts.
- Consider including proximity to bike share locations as a criterion in the trail prioritization.

Figure 12 – Orlando Bike Share Phase 1 Locations

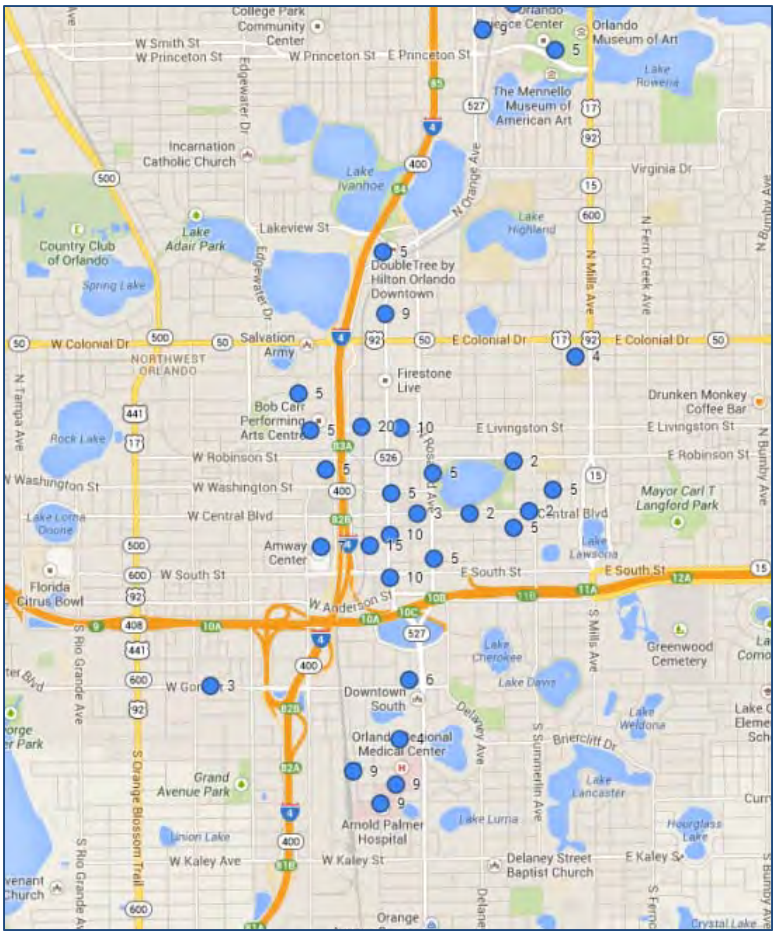
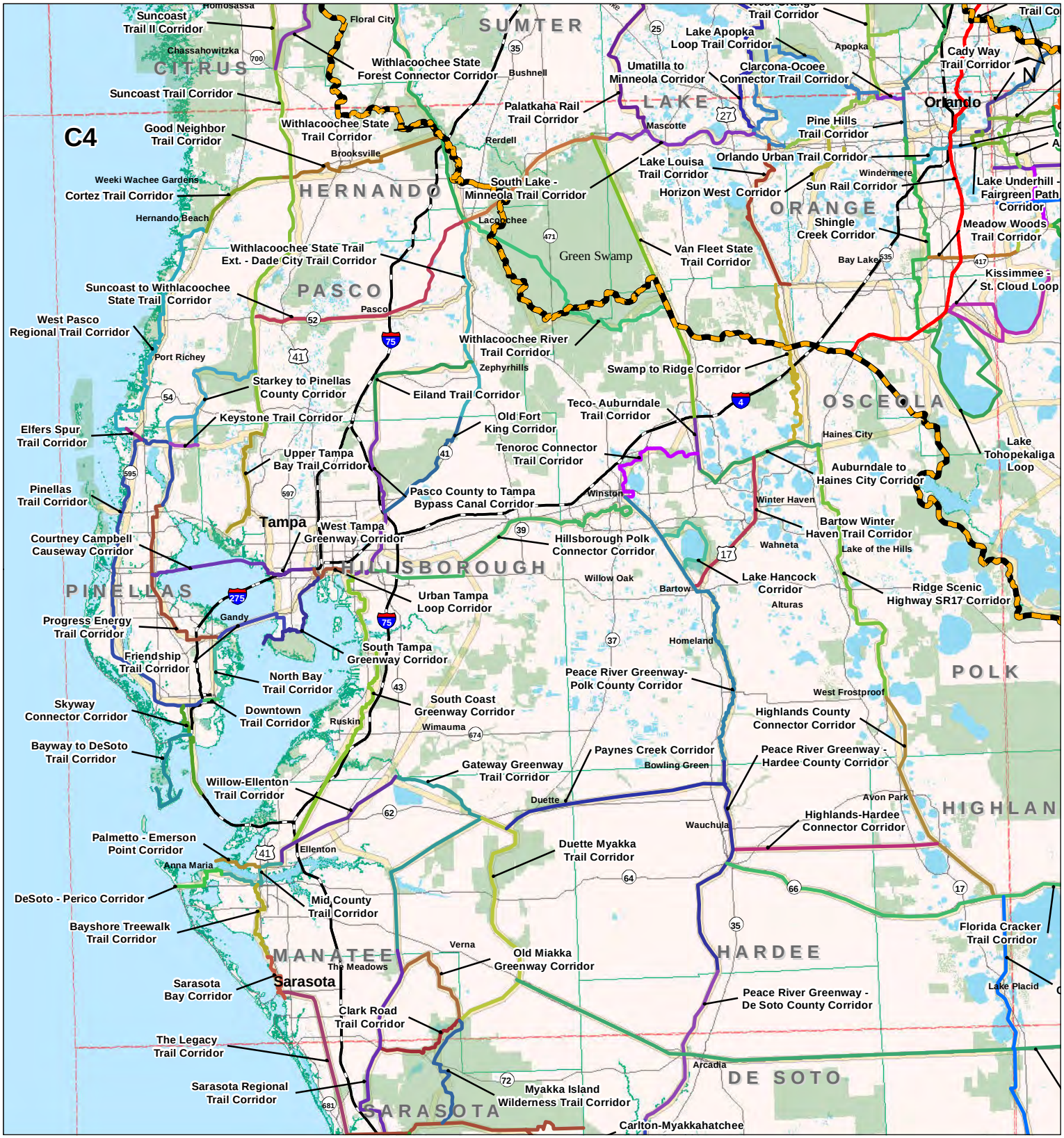


Table 1 – Orlando Bike Share Phase 1 Locations & Details

Phase	Hub	Location	Main Attraction	Racks	Bikes
1	1	South Eola	Publix	20	15
1	2	City Hall	City Hall	20	15
1	3	Lynx/SunRail Central	Lynx/SunRail Central	75	40
1	4	NE Eola	Panera Bread	20	15
1	5	Thornon Park	Thornton Park	20	15
1	6	Orlando Public Library	Orlando Public Library	20	15
1	7	Plaza Building	Plaza Building	45	35
1	8	Church Street Station/55W	Church Street Station	45	35
1	9	Thornton Park Central	Urban ReThink	20	15
1	10	Orange County Court	Orange County Court	20	15
1	11	NW Eola	Lake Eola Ampitheatre	15	10
1	12	Amway Center	Amway Center	60	35
1	13	Amtrak/SunRail	Amtrak	20	15
1	14	MD Anderson Cancer Center	MD Anderson Cancer Center	20	15
1	15	Orlando Health	ORMC	32	24
1	16	North ORMC	Walgreens	20	15
1	17	Mills50 South	Dandelion Communitea Café	10	5
1	18	Gateway Center Building	Double Tree Orlando	20	15
1	19	Loch Haven Park	Orlando Science Center	25	5
1	20	Florida Hospital SunRail	Florida Hospital SunRail	20	9
1	21	South Eola Dr/Pine St	The Abbey	15	10
1	22	North Quarter	NORA Apartments	15	10
1	23	Florida Hospital	Florida Hospital	15	10
1	24	FAMU	FAMU	10	7
1	25	Orange County Admin Building	Orange County Admin Bldg	10	7
1	26	Bob Carr	Bob Carr Performing Arts	15	7
1	27	Orange County Public School HQ	OCPS HQ	15	7
1	28	Midtown	Regions Bank Bldg	15	7
1	29	Carver Shores	Carver Shores	15	7
1	30	Lucerne Pavillion	Lucerne Pavillion ORMC	15	10

APPENDIX



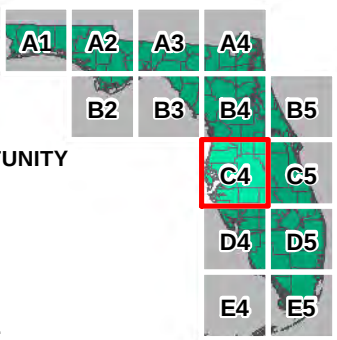
Florida Greenways & Trails System Plan

0 5 10 20 Miles

* 2012 LAND TRAILS OPPORTUNITY (PUBLIC COMMENT DRAFT)

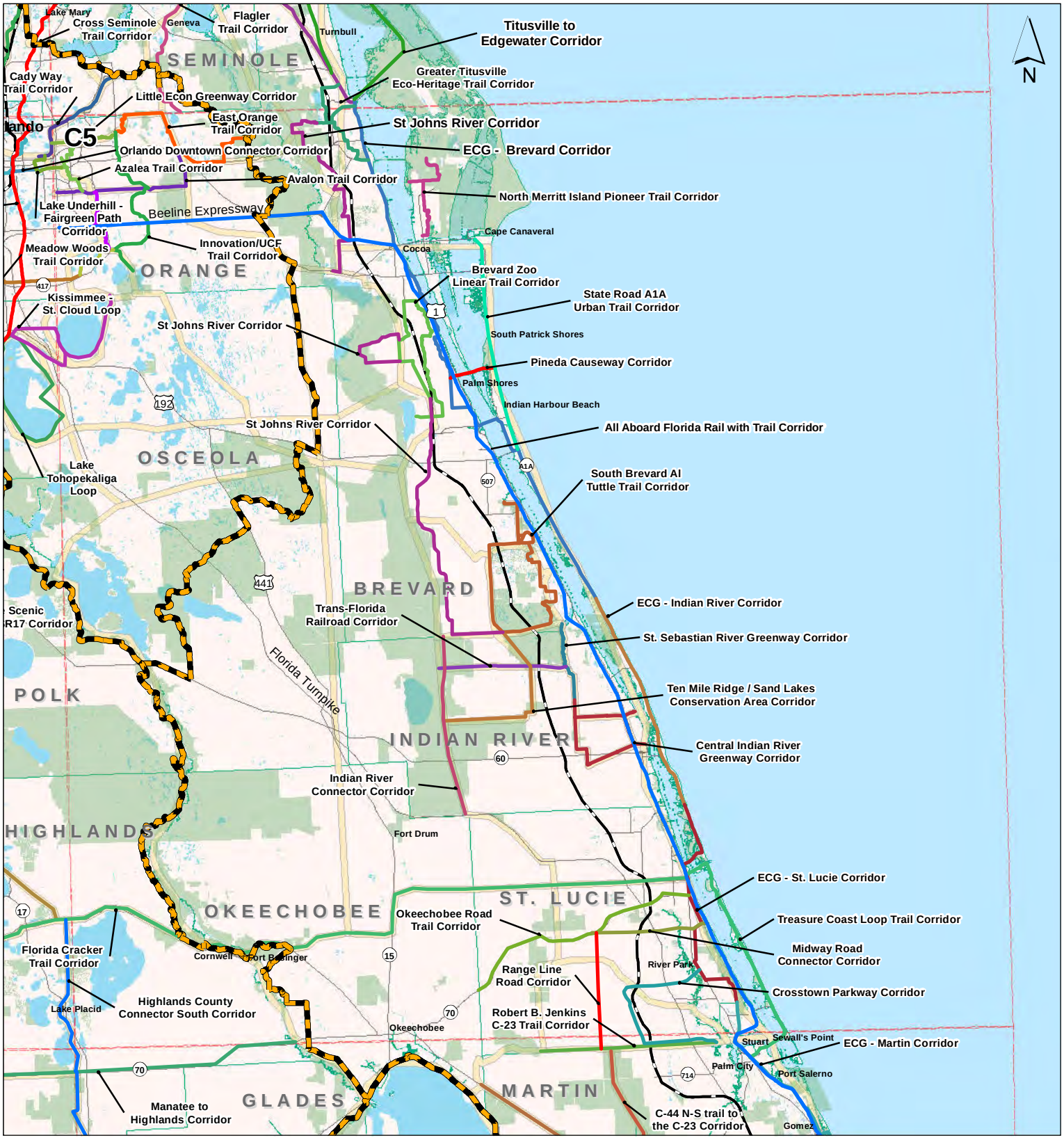
FLORIDA NATIONAL SCENIC TRAIL OPPORTUNITY

MULTI-USE OPPORTUNITY 2008



* The different colors of the Land Trails represent the beginning and ending points of individual corridors.

Map Date: 10/17/12



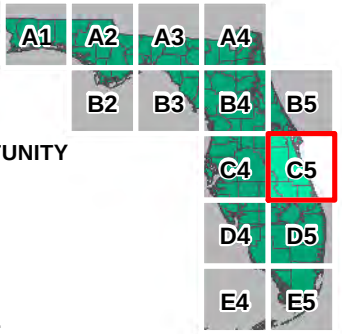
Florida Greenways & Trails System Plan

0 5 10 20 Miles

* 2012 LAND TRAILS OPPORTUNITY (PUBLIC COMMENT DRAFT)

FLORIDA NATIONAL SCENIC TRAIL OPPORTUNITY

MULTI-USE OPPORTUNITY 2008



* The different colors of the Land Trails represent the beginning and ending points of individual corridors.

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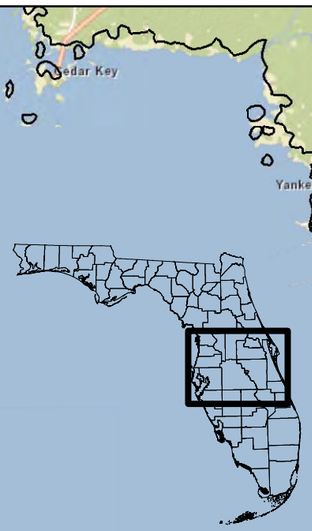


Seminole Gap

Space Coast Gap

Good Neighbor Gap

Van Fleet Gap

Starkey Gap

Proposed Coast-to-Coast Connector

Gulf Of Mexico

Atlantic Ocean

Canaveral National Seashore

0 5 10 20 30 Miles

FLORIDA GREENWAYS & TRAILS FOUNDATION, INC.

Close the Gap

GENESIS GROUP
FROM VISION TO REALITY

Data Sources: www.fgdl.org and respective county websites
Basemap courtesy of arcgis.com, Shaded Relief
Prepared Date: October 31, 2012
This map is for display purposes only. Any other use is not advised.

Heart of Florida Greenway

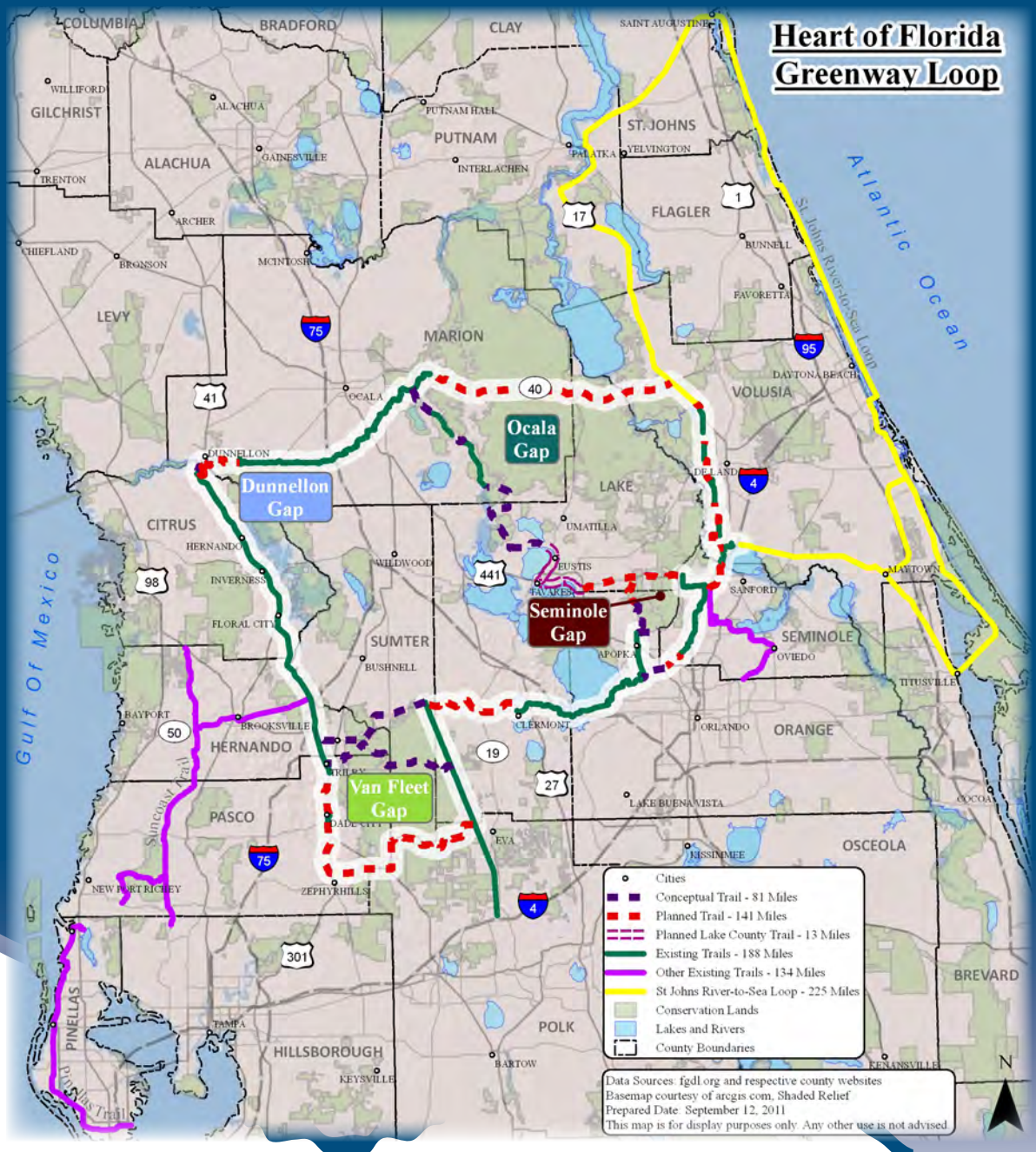
This unique central "Heart of Florida Greenway" would link together five existing trails:

- The Withlacoochee State Trail
- The West Orange Trail
- The Lake County Trail
- The Seminole/Wekiva Trail
- The Cross Florida Greenway

By closing the four gaps:

- The Dunnellon Gap
- The Van Fleet Gap
- The Seminole Gap
- The Ocala Gap

We have created these maps and materials to show how this can be done. Join us and learn how you can help the effort. Contact the Florida Greenways and Trails Foundation for more information.



Close the Gap
Florida Greenways & Trails Foundation, Incorporated

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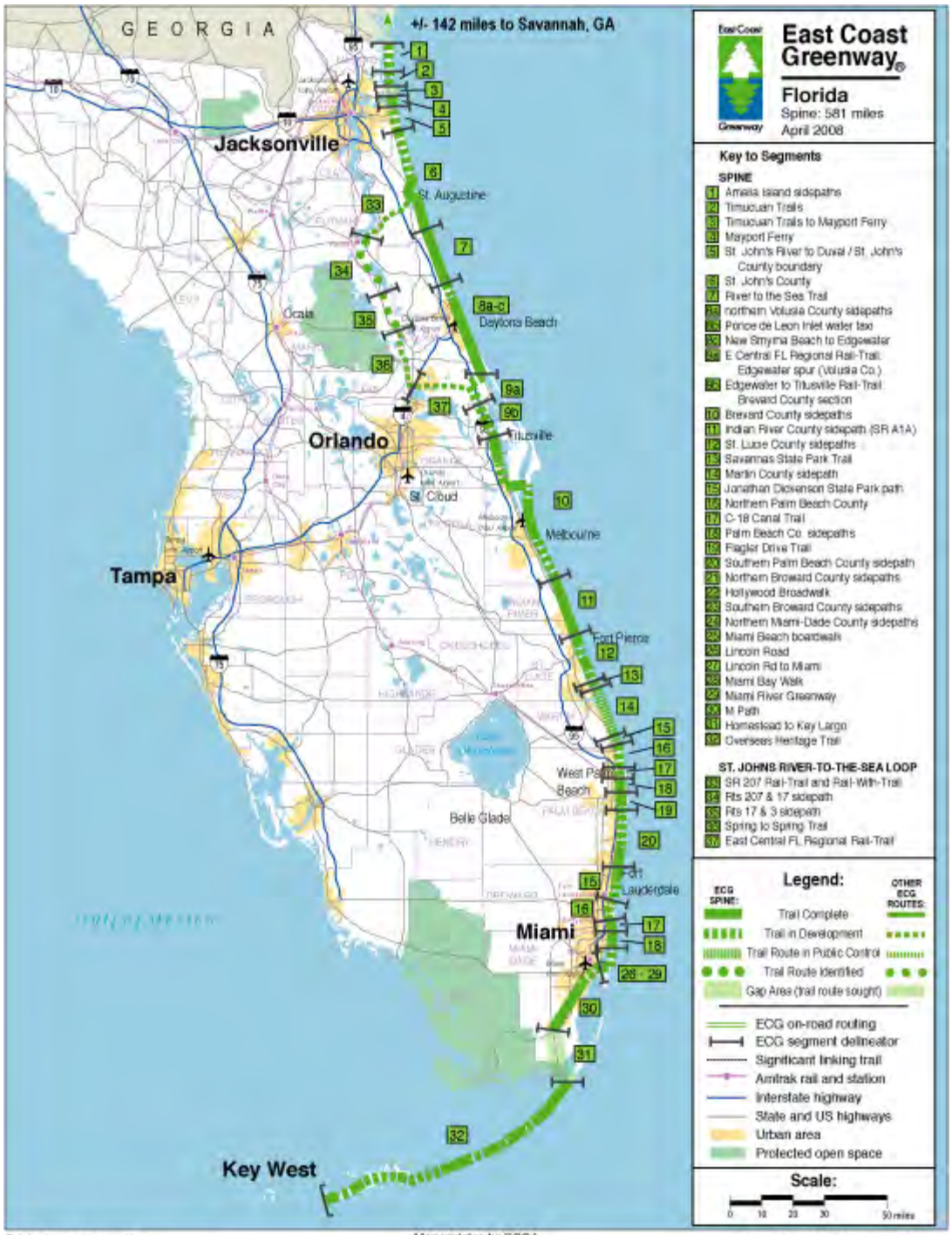

Original map prepared by
Vanasse Hangen Brustlin, Inc.
101 Walnut Street
Watertown, MA 02471-9151

Map updates by ECGA

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Appendix B – Initial Trail Prioritization Criteria

Introduction

An early task of the Orlando Primary Bicycle Routes Study is to develop a set of initial trail corridor prioritization criteria, which will be used to prioritize the proposed trail routes as high, medium, or low priority corridors. The initial prioritization will establish the work effort for each corridor in this project, with high-priority corridors having a more detailed evaluation, and low-priority corridors having a more general evaluation. Later in the project, once feasibility evaluations have been completed for the various trail corridors, the prioritization criteria will be reviewed and added to in order to establish the final project prioritization in the implementation plan.

The initial prioritization should be completed to the extent possible using GIS, based on existing City GIS data or readily available GIS data from other sources. Any specific locations, areas, or destinations, etc. that are not captured in available GIS data should be pre-defined so they can be coded with points or polylines in GIS.

Prioritization Criteria Review

Several sources listing ranking criteria for trail development were reviewed to help develop a preferred list of criteria for use in this project, including the following:

- City of Orlando Sidewalk Prioritization Method
- Orange County Trails Master Plan Corridor Evaluation Scoring
- State of Florida Greenways and Trails System (FGTS) Priorities
- State of New York Recreational Trails Program Ranking Criteria
- City of Philadelphia Trail Master Plan Prioritization Factors and Criteria

Criteria from each of the above sources are summarized below.

City of Orlando Sidewalk Prioritization Method

The sidewalk prioritization method currently used by the City includes 7 categories, each with specifically defined point scoring criteria (0 to 100 points) and weighting (shown in parentheses):

- Schools (30%)
- Functionally Classified Streets (20%)
- Transit (20%)
- Parks/Recreation/Libraries (15%)
- Shopping (5%)
- Social Service/Medical (5%)
- Housing (5%)

The **Appendix** includes the full City sidewalk prioritization criteria.

Orange County Trails Master Plan Corridor Evaluation Scoring

The County's 2012 Trails Master Plan included 10 categories to evaluate each individual trail corridor to establish priorities. Up to 10 points were available for each category (with one exception, which had a maximum of 12 points) and scoring criteria were well defined with most categories having 3 point scoring levels: 10, 5, or 2 points. The following categories were used:

- Population Density Served
- Public Ownership
- Scenic/Aesthetic Value
- Transportation Value
- Estimated Construction Cost per Mile
- Catalyst for Economic Development
- Promotes Urban Infill
- Lack of other Bicycle/Pedestrian Facilities
- Connected to other Trail Corridors
- Available Grant Funding

The **Appendix** includes a copy of the County's Corridor Evaluation Scoring criteria and matrix of projects.

State of Florida Greenways and Trails System (FGTS)

The Florida Greenways and Trails System Priority Trails Map are the focused priorities within the vision established by the FGTS Opportunity Maps. Corridors and connections shown on the Priority Trails Map, to the greatest extent possible, are based on the following 9 priorities:

1. Support and further national, state or regional trail projects, plans and initiatives that encompass multiple counties.
2. Include existing and planned long-distance trails and trail loops that serve as destinations to support nature-based tourism and economic development.
3. Include the State Trails, the Cross Florida Greenway and other major connecting trails of greatest length (five miles or longer).
4. Connect major population centers to provide access to the FGTS by the greatest number of Floridians.
5. Build on past and programmed state and federal investment in trails, particularly when matched by funding from local and private sources.
6. Coincide with transportation, utility and canal corridors that facilitate major connections.
7. Coincide with the Florida Ecological Greenways Network.
8. Connect natural, recreational, cultural and historical sites that provide a range of experiences.
9. Provide a safe, accessible and high quality experience for users.

Source: http://www.dep.state.fl.us/gwt/FGTS_Plan/PDF/FGTS_Plan_2013-17_publication.pdf

State of New York Recreational Trails Program

The State of New York uses the following criteria to prioritize trail corridor applications in the state's Recreational Trails Program (RTP), a state-administered, federal assistance program to provide and maintain recreational trails for both motorized and non-motorized recreational trail use (scoring is noted in parentheses):

A. Project provides for innovative recreational trail corridor sharing for motorized and/or non-motorized use (maximum 5 points)
B. Project provides for motorized and/or non-motorized use enhancing the quality and quantity of recreational trail opportunities (maximum 5 points)
C. Project provides development of urban trail linkages (maximum 4 points)
D. Project is identified in, or furthers a specific goal of SCORP or the State Recreational Trail Plan or a local trail plan (maximum 5 points)
E. Index of Need – based on the "Relative Index of Needs" table in SCORP (maximum 5 points)
F. Citizens were/will be involved in proposal conception and implementation (maximum 3 points)
G. Project ties into other trails, greenways, scenic corridors, or natural, cultural, historical or recreational areas (maximum 4 points)
H. Volunteer labor, non-traditional labor and other certified donations will be used to accomplish this project (maximum 6 points)
I. Project will utilize existing corridors, (railroad right-of-way, canal towpath, utility lines, publicly owned river valleys or highland ridges, parkways, etc.) (maximum 3 points)
J. Project will improve the continuity of a trail system (maximum 4 points)
K. Project budget is reasonable, justified and cost-effective. (maximum 20 points)
L. Project addresses federal program initiatives (maximum 6 points)
M. Regional Economic Development Council Assessment (maximum 20 points)

Source: http://nysparks.com/grants/recreational-trails/default.aspx

City of Philadelphia Trail Master Plan (2013)

The recent City of Philadelphia Trail Master Plan used five factors and 28 total criteria to evaluate City trail priorities. Scoring was generally based on a 1-4 scale in most cases. The sum of the scores under each factor was weighted to 20% of the total project score. Several of the criteria were over weighted to reflect a higher importance. Double points were given to the following: project status; areas of zero auto ownership; completes a gap in and will be supported by the bicycle network; major riverfront spine trail; and dedicated group for development and stewardship. Triple points were given to: completes a gap in the trail network. The projects were ranked by highest to lowest score and divided into three priority groups (high, medium, and low) based on dividing the list of scored projects into thirds. The factors and criteria used were as follows:

- Prior Commitments
  - Project Status
  - Dedicated Planning Document
- Demand
  - Close to Schools
  - Close to Parks
  - Close to Recreation Centers
  - Close to High-Use Regional Rail Station
  - Close to High-Use Subway/El Station
  - Close to High-Use Bus Stop
  - In Area of Zero Auto Ownership
  - In Area of High Bicycle Commuting
  - In Area of High Pedestrian Commuting
  - Adjacent to High-Use Trail
  - Enabling Access to Waterfront/Natural Area
  - Fills a Gap in Walkable Distance to Open Space Map
- Connectivity
  - Completes a Gap in the Trail Network
  - Completes a Gap in and will support the Bicycle Network
  - Connects to On-Road Greenway
  - Major Riverfront Spine Trail
  - Feeder to Existing Trail
- Feasibility
  - Barriers
  - Land Ownership
  - Part of Multiagency Project
  - On City, State, Federally Owned Land
  - Dedicated Group for Development and Stewardship
  - PWD Restoration Priority Area
  - Investment Needed to Make Connection
- Cost
  - Cost Estimate

The **Appendix** includes a copy of the Philadelphia Trail Master Plan scoring criteria.

Source: http://www.phila.gov/CityPlanning/plans/PDF/PhilaTrailMPlan_Final_July2013.pdf

Initial Prioritization Criteria Recommendations

After consideration of the prioritization criteria summarized above, local Orlando factors and considerations, and the results of the preliminary trail assessment, the following prioritization criteria are recommended for use in the initial trail corridor prioritization process:

1. **Connects to Statewide Trail Corridors**
   Scoring: Provides connectivity to the planned Coast to Coast Connector Trail via the West Orange Trail/Pine Hills Trail (20 points)

2. **Connects Directly to Other Local/Regional Trails (either existing or planned sections)**
   Scoring:
   - Direct connection to the Orlando Urban Trail (20 points)
   - Direct connection to more than 2 other trails (10 points)
   - Direct connection to 2 other trails (7 points)
   - Direct connection to 1 other trail (5 points)

3. **Connects to Significant/Iconic Orlando Landmarks/Areas**
   Scoring (for each connection):
   - Direct trail connection (5 points)
   - 0.01-0.25 miles (3 points)
   - 0.26-0.50 miles (2 points)
   - 0.51-1.00 mile (1 points)

   Potential landmarks/areas for consideration *(list needs to be confirmed/finalized based on City input)*:
   - Downtown Orlando/Church Street
   - Thornton Park
   - Lake Eola Park and Lake Eola Heights
   - Leu Gardens
   - Parramore Neighborhood
   - Baldwin Park
   - College Park
   - Orlando Science Center and Loch Haven Park
   - Carver Shores
   - Milk District
   - Audubon Park Garden District
   - Azalea Park
   - College Park
   - Ivanhoe Row
   - City Venues (Amway Center, Dr. Phillips Performing Arts Center, Citrus Bowl)

4. **Connects to Other Area Transit/Transportation Systems**
   Scoring (for each connection):
   - Direct trail connection (5 points)
   - 0.01-0.25 miles (3 points)

- 0.26-0.50 miles (2 points)
- 0.51-1.00 mile (1 points)

Transit/transportation system connections for consideration *(list needs to be confirmed/finalized based on City input)*:

- SunRail Stations
- Lynx Routes and/or Superstops
- Planned BRT corridors
- Commuter Lots

5. Connects to Significant City Destinations

Scoring (for each connection):

- Direct trail connection (5 points)
- 0.01-0.25 miles (3 points)
- 0.26-0.50 miles (2 points)
- 0.51-1.00 mile (1 points)

Destinations for consideration *(list needs to be confirmed/finalized based on City input)*:

- Public schools
- Major employers:
  - Florida Hospital
  - Orlando Health
  - Downtown core
  - Medical City
- Major housing developments:
  - Crescent Central Station
  - Skyhouse
- Bike share locations (Phase 1)
- Senior Centers and Community Centers
- Colleges and Private Schools

6. Total Population and Employment Served (within ½ mile buffer of trail corridor)

Scoring:

- Graduated scoring with a maximum of 10 points
- *Need to establish graduated thresholds for scoring*

7. Improves Safety or Removes Barriers

Scoring: Improves a safety issue/concern for bicyclists or pedestrians by removing a significant barrier for trail connectivity (5 points per barrier addressed)

Future Prioritization Criteria for Consideration

The following additional criteria are not proposed for the initial prioritization, but may be used for the final prioritization once the trail corridors have been further evaluated.

8. Provides Economic Opportunity

Scoring (for each occurrence):

- Connects to a commercial destination that can function as a potential trailhead (5 points)
- Connects to businesses along the trail or connects to existing shopping/restaurant area(s) (4 points)
- Provide one half of possible points for each area connected by a minimum 5' sidewalk within 0.25 mile

9. Provides a Scenic Trail Corridor or Pleasant/Unique Experience

Scoring: Trail is shaded, has scenic views, is quaint, culturally rich, has educational opportunities related to historic or environmental significance, etc.

- 75-100% of the trail length (5 points)
- 50-74% of the trail length (4 points)
- 25-49% of the trail length (3 points)

10. Previous Commitments

Scoring:

- Construction documents are complete and right of way is available (5 points)
- Right of way is available and a PD&E or Feasibility Study has been completed (4 points)
- Fund matching is secured that exceeds 50% of costs (3 points)
- Fund matching is secured that exceeds 25% of costs (2 points)
- The trail corridor has fragmented right of way (1 point)

11. Provides an opportunity for Public-Private partnership

Scoring: 5 points per opportunity

12. Provides an opportunity for a partnership with another agency

Scoring: 5 points per opportunity

APPENDIX

City of Orlando - Sidewalk Prioritization Method

Category	Weighted % to Subtotal
Schools	30%
Segment is within 1/8 mi of a school = 100 points	
Segment is within 1/4 mi of a school = 80 points	
Segment is within 1/2 mi of a school = 60 points	
Segment is within 3/4 mi of a school = 40 points	
Segment is within 1 mi of a school = 20 points	
Parks/Recreation/Libraries	15%
Segment is within 1/8 mi of a Park/Rec/Library = 100 points	
Segment is within 1/4 mi of a Park/Rec/Library= 80 points	
Segment is within 1/2 mi of a Park/Rec/Library = 60 points	
Segment is within 3/4 mi of a Park/Rec/Library = 40 points	
Segment is within 1 mi of a Park/Rec/Library = 20 points	
Transit	20%
Segment is within 1/8 mi of a Bus Stop = 100 points	
Segment is within 1/4 mi of a Bus Stop = 80 points	
Segment is within 1/2 mi of a Bus Stop = 50 points	
Segment is within 1/4 mi of a Rail Stop = 100 points	
Segment is within 1/2 mi of a Rail Stop = 80 points	
Segment is within 3/4 mi of a Rail Stop = 50 points	
Shopping	5%
Segment is within 1/8 mi of Shopping = 100 points	
Segment is within 1/4 mi of Shopping = 70 points	
Segment is within 1/2 mi of Shopping = 50 points	
Segment is within 3/4 mi of Shopping = 20 points	
Functionally Classified Streets	20%
Segment is on an Arterial = 100 points	
Segment is on an Collector = 80 points	
Segment is on a Residential Collector = 60 points	
Social Service/Medical (Hospitals, Clinics, Day Care, etc.)	5%
Segment is within 1/8 mi of Social Service/Medical = 100 points	
Segment is within 1/4 mi of Social Service/Medical = 70 points	
Segment is within 1/2 mi of a Shopping = 50 points	
Segment is within 3/4 mi of a Shopping = 20 points	
Housing	5%
Segment is within 1/8 mi of Senior Housing/Temporary(Homeless)/Affordable/Public = 50 points	
Segment is within 1/4 mi of a Senior Housing/Temporary(Homeless)/Affordable/Public = 40 points	
Segment is within 1/2 mi of a Senior Housing/Temporary(Homeless)/Affordable/Public = 30 points	
Segment is within a census tract at or below median household income = 50 points	

2012 Orange County Trail Systems Master Plan
Corridor Evaluation Scoring

Ranking	3	11	5	11	6	1	2	9	7	4	7	10
Corridor Name	Pine Hills Trail	West Orange Trail Phase 4	Lake Apopka Connector Trail	Clarcona Ocoee Connector Trail	Horizon West Trail	Shingle Creek Trail	Little Econ Greenway Trail Phase 3	Azalea Park Trail	Avalon Trail	Innovation Way/UCF Trail – North & South	Meadow Woods Trail	East Orange Trail
Population Density Served ("high density to be defined"):												
At least 75% of the corridor passes through a high density population area – 10 pts												
At least 50% of the corridor passes through a high density population area – 5pts												
At least 25% of the corridor length passes through a high density population area – 2 pts												
Subtotal	**10**	**2**	**2**	**5**	**5**	**10**	**10**	**10**	**5**	**5**	**10**	**2**
Public Ownership:												
At least 75% of the corridor is in public ownership – 10 pts												
At least 50% of the corridor is in public ownership – 5 pts												
At least 25% of the corridor is in public ownership – 2 pts												
Subtotal	**5**	**10**	**10**	**10**	**10**	**5**	**5**	**5**	**2**	**10**	**2**	**5**
Scenic/ Aesthetic Value:												
At least 75% of the corridor has scenic/ aesthetic value – 10 pts												
At least 50% of the corridor has scenic/ aesthetic value – 5 pts												
At least 25% of the corridor has scenic/ aesthetic value – 2 pts												
Subtotal	**2**	**5**	**5**	**2**	**2**	**10**	**5**	**5**	**5**	**2**	**5**	**5**
Transportation Value (1 pt per destination):												
The corridor connects significant destinations, including parks, trails, schools, employment centers, etc – up to 10 pts (1 pt for each destination)												
Subtotal	**8**	**4**	**4**	**3**	**6**	**6**	**10**	**9**	**8**	**10**	**7**	**8**
Estimated Construction Cost per Mile:												
Lowest estimated cost per mile(including bridges, overpasses, other structures, design fees) receives 12 pts, highest cost per mile receives 1 pt												
Subtotal	**3**	**11**	**10**	**12**	**9**	**7**	**1**	**4**	**6**	**5**	**2**	**8**
Catalyst for Economic Development:												
Trail corridor is adjacent to commercially or residentially zoned properties, is expected to stimulate *significant* economic development – 10 pts												
Trail corridor is adjacent to commercially or residentially zoned properties, is expected to stimulate *moderate* economic development – 5 pts												
Trail corridor is adjacent to commercially or residentially zoned properties, is expected to stimulate *minimal* economic development – 2 pts												
Subtotal	**5**	**2**	**2**	**2**	**5**	**5**	**2**	**2**	**5**	**5**	**5**	**2**
Promotes Urban Infill:												
At least 75% of the corridor is located within Urban Services Boundary – 10 pts												
At least 50% of the corridor is located within Urban Services Boundary – 5 pts												
At least 25% of the corridor is located within Urban Services Boundary – 2 pts												
Subtotal	**10**	**2**	**10**	**5**	**10**	**10**	**10**	**10**	**5**	**10**	**10**	**2**
Lack of Other Bicycle/ Pedestrian Facilities:												
Few or no other bicycle/pedestrian connections (such as sidewalks and bike lanes) are available in the majority of communities surrounding the corridor – 10 pts												
Several other bicycle/pedestrian connections are available in the majority of communities surrounding the corridor – 5 pts												
Numerous other bicycle/pedestrian connections are available in the majority of communities surrounding the corridor – 2 pts												
Subtotal	**2**	**5**	**10**	**2**	**5**	**5**	**10**	**5**	**10**	**2**	**5**	**10**
Connected to Other Trail Corridors:												
The corridor connects to more than 2 other trails – 10 points												
The corridor connects to 2 other trails – 5 points												
The corridor connects to 1 other trail – 2 pts												
Subtotal	**10**	**5**	**5**	**10**	**5**	**10**	**10**	**5**	**10**	**10**	**10**	**10**
Available Grant Funding:												
Specific, known grant funding is available to cover 75% or more of estimated trail acquisition and construction costs – 10 pts												
Specific, known grant funding is available to cover 50% or more of estimated trail acquisition and construction costs – 5 pts												
Specific, known grant funding is available to cover 25% or more of estimated trail acquisition and construction costs – 2 pts												
Subtotal	**10**	**5**	**0**	**0**	**0**	**10**	**5**	**0**	**0**	**0**	**0**	**0**
TOTAL	**65**	**51**	**58**	**51**	**57**	**78**	**68**	**55**	**56**	**59**	**56**	**52**

Appendix A - Methodology

The scoring of proposed trails for the Philadelphia Trail Master Plan is based on the following methodology. Some criteria were weighed for importance and to reflect City priorities, as informed by the Steering and Advisory Committees and detailed in the following pages.

Criteria were divided in five factors, shown in the sidebar to the right.

> Scoring

Scoring is based on a 1–4 scale in most cases, as indicated by the below scale. Additional scoring information and exceptions to the 1–4 scale are detailed in the below criteria descriptions.

4 = Criteria complete
3 = Criteria partially complete
2 = Some progress on criteria
1 = Low to no progress on criteria

> Weighting of Factors

The five factors, Prior Commitments, Demand, Connectivity, Feasibility, and Cost, represent an equal portion of the total score for the proposed project. Weighting of specific criteria is detailed at the end of this memorandum.

FACTOR A: Prior Commitments

1. Project Status

If a project is more advanced towards construction, more points are given for the score. The levels of project progression are as follows. During the planning process, some projects moved from Pre-Construction to Construction or Completion. Though these will not be ranked in the prioritization results of the Master Plan, they were included in the analyses for comparison sake.

- Construction
- Pre-Construction
- Final Design
- Feasibility/Preliminary Design
- Planning
- Conceptual
- Vision

2. Dedicated Planning Document for Trail Segment

Trail segments with dedicated planning and feasibility studies are more likely to receive funding and support for future project phases. The values include:

4 = Dedicated Plan for the specific trail segment
3 = Segment mentioned as part of a larger corridor plan for the trail
2 = Part of ongoing planning for the larger trail network
1 = No specific plan or mention in a larger network plan

3. Support in Planning Documents

Trails supported in prior planning documents, such as the following, reflect a higher value in this category.

Prioritization Criteria

Prior Commitments
- Project Status
- Dedicated Planning Document

Demand
- Close to Schools
- Close to Parks
- Close to Recreation Centers
- Close to High-Use Regional Rail Station
- Close to High-Use Subway/El Station
- Close to High-Use Bus Stop
- In Area of Zero Auto Ownership
- In Area of High Bicycle Commuting
- In Area of High Pedestrian Commuting
- Adjacent to High-Use Trail
- Enabling Access to Waterfront/Natural Area
- Fills a Gap in Walkable Access to Open Space Map

Connectivity
- Completes a Gap in the Trail Network
- Completes a Gap in and will support the Bicycle Network
- Connects to On-Road Greenway
- Major Riverfront Spine Trail
- Feeder to Existing Trail

Feasibility
- Barriers
- Land Ownership
- Part of MultiAgency Project
- On City, State, Federally Owned Land
- Dedicated Group for Development and Stewardship
- PWD Restoration Priority Area
- Investment Needed to Make Connection

Cost
- Cost Estimate

- Fairmount Park Trail Master Plans
- *Philadelphia2035*
- *Green2015*
- *Philadelphia Pedestrian and Bicycle Plan*
- PWD Plans
- Other City and City-supported plans

FACTOR B: Demand

4. Close to Schools (Range 1–4)

The number of schools within a 1-mile buffer of the proposed trail alignment determines this overall score. These values were compared and categorized into four quartiles, corresponding to a value of 4 for many schools, a value of 1 for few or no schools, etc. An extra point was added where trails are adjacent to or go through university areas.

5. Close to Parks (Range 1–4)

This score is the number of parks within a 1-mile buffer of the trail alignment. Park facility types considered are: Neighborhood Parks, Regional Parks, Tot Lots, Golf Facility, Tennis Facility, Older Adult Facility, Playground, and Stadium/Concert Stage, as designated by Philadelphia Parks & Recreation. These values were compared and categorized into four quartiles, corresponding to a value of 4 for many parks/recreation centers, a value of 1 for almost no parks. Extra value was given to those parks of high usage, watershed parks, and parks of regional significance.

6. Close to Recreation Centers (Range 1–4)

This value is the number of recreation centers within a 1-mile buffer of the trail alignment. These values were compared and categorized into four quartiles, corresponding to a value of 4 for many parks/recreation centers, and a value of 1 for almost no park/recreation centers.

7. Close to High-Use Regional Rail Station (Range 0–4)

Based on SEPTA ridership numbers, this value reflects the number of the top 25 Philadelphia regional rail stations within 1 mile of the trail alignment as measured by weekday ridership boardings in Philadelphia (not total SEPTA ridership by station, which is regional). This value was calculated for all segments and then ranked by actual number of regional rail stations within close proximity, as no value is over 3. Where a proposed trail would lead directly to a SEPTA station, such as Ivy Ridge A, Fox Chase Lorimer Trail, or Lower Poquessing Creek Trail A, the score is 4 to reflect direct commuter access potential.

8. Close to High-Use SEPTA/El Station (Range 0–4)

Based on SEPTA Market-Frankford and Broad Street Line ridership values, this is the proximity within 1-mile from the top 25 high speed rail stations (by total weekday ridership numbers). This value was calculated for all segments and then ranked by actual number of stations within close proximity to trails, as no value is over 4.

9. Close to High-Use Bus Stop (Range 0–3)

Based on SEPTA ridership numbers, this value reflects the proximity within 1-mile from the top 25 bus stops (by total weekday ridership values). This value was calculated for all segments and then ranked by actual number of high-use bus stops within close proximity, as no value is over 3.

10. In Low Auto-Ownership Area (Range 1–4)

This is the percentage of households with zero vehicles, based on Census ACS from 2005–2009. A score of 1 is 0–18%, a score of 2 is 18–36%, a score of 3 is 36–55%, a score of 4 is

55–100% of households. Where the proposed trail runs through more than one Census tract, the score reflects the Census tract(s) with the majority of the trail alignment.

11. In Area of high bike commuters (Range 1–4)

According to the Census ACS from 2005–2009, this is based on the percentage of total commuters who bicycle to work. The bicycle mode may be part of other modes during the trip, such as walking or transit. The cycling rates range from 0% to 17.2% of all commuting trips. These are organized in quartiles and scored 1–4 accordingly to quartile.

12. In Area of high pedestrian commuters (Range 1–4)

Based on Census ACS 2005–2009, this value is the percentage of total commuters per Census tract who walk as a part of their commute to work. The walking mode may be part of other modes during the trip, such as bicycle or transit. The walking rates range from 0% to 81.9% of all commuting trips. These are organized in quartiles and scored 1–4 according to quartile.

13. Adjacent to High Trail (Range 0–4)

This value is based on the proximity of a proposed trail to existing trails with high usage. "High usage" is based on trail counts performed seasonally by Philadelphia Parks & Recreation on major multipurpose trails. This value reflects the present use/demand for trails on existing trails with PPR counters.

14. Enable access to Waterfront or Natural Area Previously Inaccessible (Range 1–4)

This value reflects increasing public access to waterfronts, parks, or other natural features currently inaccessible to the public. Examples include a waterfront trail, a trail along park space that was previously passive or inaccessible, and encouraging access to National Wildlife Refuge or major watershed park. A value of 4 denotes significant access improvement; 1 denotes no access improvement.

15. Will fill a gap in the "Walkable Access to Public Open Space" Analysis Map (Range 0–4)

The Walkable to Public Open Space analysis was done as part of *Green2015* and *Philadelphia2035* and indicates areas of the City that are within ½ mile (approximately a 10-minute walk) from public open space. The value given reflects whether the proposed trail will fill a gap in the area walkable to public open space, as the proposed trails are assumed to be counted as open space with green elements. A value of 4 will fill a gap and provide additional public open space to the trail-adjacent community; a value of 0 will not fill a gap.

FACTOR C: Connectivity

16. Completes a Gap in the Trail Network (Range 1–4)

If the trail segment completes a gap in the larger trail network, the score here is high. This score reflects a connection made by a trail segment forming a link between two existing trails, not a spur off of a trail that is a trail dead-end.

17. Completes a Gap in and will be supported by the Bicycle Network (Range 0–4)

If the trail segment completes a gap in the on-road bicycle network and will be supported by the existing bicycle network through signage or existing infrastructure, the score here is high.

18. Connects to On-Road Greenway (Range 1–3)

Several signed and mapped on-road greenways exist in Philadelphia, including the East Coast Greenway, Cobbs Creek Greenway, and Frankford Creek Greenway. Connections to these amenities are not reflected in the trail connections or bike connections criteria, since these are not separated facilities and do not always have on-road bicycle infrastructure. The presence of

a connection here indicates a higher score.

19. Major Riverfront Spine Trail (Range 1–4)

If the trail will serve as a part of a major riverfront trail, such as the Schuylkill River Trail or Delaware River Trail, the scoring in this category is high. A value of 1 indicates the segment will not be part of a major spine trail. A value of 4 indicates that the segment will be part of a major spine trail.

20. Will serve as a feeder to major existing trail (Range 1–4)

If the trail segment will serve as a feeder trail to existing trails, the score is high. Main trunk trails are not considered feeder trails for this analysis.

FACTOR D: Feasibility

21. Barriers (Range 1–4)

If there are significant issues regarding property ownership, encroachment, topography, adjacent conflicting land use, or soil history, the score will be lower here. Many trail segments do not have feasibility studies yet, therefore this is a preliminary analysis based on PCPC review of potential trail alignments. Funding for construction was not considered in this analysis, as it is a common need for all proposed trail segments.

22. Land Ownership (Range 1–4)

If there are significant land ownership barriers, i.e. land that is in speculation or planned for a high-yield use that will overlap with the trail alignment, the score here will be low. Though there are ways to integrate trails with industry, waterfronts, and through small corridors, this score will reflect the extra time and investment necessary to deal with these property ownership issues.

23. Part of Multiagency Project (Range 0–4)

If the project has the potential to be part of a PWD, PennDOT, Streets Department, or other multiagency project with a high probability of cost-sharing for design and construction, the score here is higher.

24. Alignment on City, State, or Federally Owned Land (Range 1–4)

If the trail alignment is located on City, State, or Federally owned vacant or underutilized land, there is typically a higher change for success of securing the alignment. The presence of government-owned land along the alignment is reflected in this score.

25. Dedicated Group for Development, Stewardship (Range 1–4)

A high value is given in this category if there is a dedicated, long-term group for stewardship, maintenance, and development of the trail. Examples include SRDC, DRWC, and DRCC. Where the proposed trail alignment is within Park & Recreation lands or in the Streets Department public right-of-way, the City of Philadelphia does not count as a dedicated stewardship group. Nonprofit groups involved in the development of the trail concept do not count towards this category, as long-term stewardship and maintenance is typically not part of such planning and feasibility studies.

26. PWD Restoration Priority (Range 1–4)

Based on Philadelphia Water Department data from 2011, this analysis includes two factors: Status (in design, designed 30 or 70 percent, bid open, in queue for design) and upcoming Sewer and Water Projects (water, green stormwater infrastructure, sewer). PWD green stormwater infrastructure project locations are chosen based on the highest positive impact to the water and sewer system, typically within the combined sewer service area (CSO). In

addition, PWD is a potential cost-sharing partner in trail construction in Philadelphia, and the location, potential water quality impact, and partnering opportunities between water and trail projects can potentially impact the build-ability of a trail segment in a positive way. A score of 4 demonstrates a high density of water or sewer projects in close proximity and high potential to partner with PWD, while a score of 1 demonstrates low potential to partner and little or no water or sewer projects in the direct vicinity.

27. Investment needed to Develop (Range 1–4)

If the investment needed to make a connection or meet recreation or commuting needs is significant, this value will be low. If the investment needed to make a connection is low or funding is already secured, this value will be high. This is the "bang for the buck" measure but also reflects prior-secured funding. Many proposed trails have no feasibility study, therefore this is a preliminary analysis based on PCPC knowledge of those trail alignments.

FACTOR E: Cost

28. Cost Estimate

To determine the total cost needed for design and construction of each trail alignment, the team performed a data gathering and cost estimate exercise. For projects recently completed or under construction, real design and construction costs were combined for this cost. For those projects without design or construction cost values, estimates were performed to include general cost/mile ranges taken from previous projects designed and constructed in Philadelphia. The estimates were then compared on a range with five scoring categories: (1) less than $500K, (2) $500K-$2.5M, (3) $2.5M-$5M, (4) $5M-$8M, and (5) $8M and above. More details on this estimate are in the plan document.

Weighting of Criteria

Criteria were divided into five factors: Prior Commitments, Demand/Need, Connectivity, and Feasibility. Since some factors had more criteria, the factors were weighted equally at 20% of the total score.

Some criteria were weighted double to reflect City priorities:

- Project Status
- In area of zero auto ownership
- Completes a gap in and will be supported by the bicycle network
- Major Riverfront Spine Trail
- Dedicated group for development and stewardship

To reflect the importance of completing gaps in the trail network and capitalizing on existing trail facilities, the following was given triple weight:

- Completes a gap in the trail network

CITY OF ORLANDO
City Wide Trail Plan

Trail Study Prioritization Scoring

- High
- Medium
- Low
- N/A

City Region	Segment ID	Description	Facility Type	Study Priority Level	Comment	Trail Length (ft)	Trail Length (mi)	Statewide Trail Connection Score	Local/ Regional Trail Connection Score	Connection to Significant Orlando Landmarks Score	Connection to Transit Areas/Trans Systems Score	Connection to Significant City Destinations Score	Total Population and Employment Served Score (within 1/2 mile, year 2005) per mile of Trail Length	Improves Safety or Removes Barriers Score	Total Weighted Prioritization Score
W	9	Downtown to Amtrak/ORHS Sunrail	Trail	High		14,397	2.7	0	100	100	100	60	100	0	**76**
N	38	OBT/Silver Star to FL Hospital Sunrail	On-street	Med	Maximum level of study for on-street route is medium	12,995	2.5	0	100	100	80	60	80	0	**70**
W	6	OUT, Downtown to Tampa Ave	Trail	High		5,967	1.1	0	100	60	60	60	100	50	**69**
N	29	Downtown Connector	Trail	High		11,046	2.1	0	100	60	60	60	100	0	**64**
N	31	Gertrudes Walk, Amelia to Washington	Trail	Low	Lynx project moving forward into design	2,610	0.5	0	100	40	100	60	100	0	**64**
N	32	OUT, SR 50 Bridge	Trail	Low	City project moving forward into design	2,130	0.4	0	100	20	80	60	100	50	**63**
N	35	Cady Way Fashion Square Connection	Trail	Low	City to work with developer	1,182	0.2	0	100	80	0	60	100	0	**62**
E	17	Lake Underhill Path	Trail	High		3,890	0.7	0	60	80	20	60	100	50	**61**
W	5	OUT, Tampa Ave to Lake Fran Tr	Trail	High		14,068	2.7	0	100	60	20	100	80	0	**60**
N	46	Downtown Orlando Urban Bikeways	On-Street	Med		14,504	2.7	0	60	60	80	60	100	0	**58**
E	12	E-W On-Street, I-4/Michigan to Avalon Trail	Trail	Low	On-street route, majority outside City boundaries	35,899	6.8	0	60	100	40	60	80	0	**58**
N	33	OUT, SR 50 Bridge to Dinky Line	Trail	High	Short but critical connector	1,477	0.3	0	100	40	40	60	100	0	**58**
N	34	E-W On-Street, Lake Lawne Tr to OUT	On-street	Med		12,962	2.5	0	60	80	40	60	100	0	**58**
W	8	Parramore On-Street, Gore St to Michigan St	On-street	Med		7,653	1.4	0	60	60	60	60	100	0	**56**
N	30	Fairgreen Street Tr	Trail	Low	To be incorporated as part of proposed roadway	6,614	1.3	0	100	60	0	80	80	0	**56**
W	1	N-S Tr, OBT/All American to Maitland Blvd	Trail	---	Outside City boundaries	15,379	2.9	100	60	0	80	60	80	0	**52**
E	13	Avalon Trail, E of SR 436	Trail	---	Included in Orange Co Trails Master Plan	112,397	21.3	0	60	80	20	80	20	50	**47**
W	10	Shingle Creek Spur (parallel to I-4)	Trail	Low	Existing sidewalk on west side of road	2,139	0.4	0	60	40	20	40	100	0	**46**
W	7	E-W On-Street, 29th St, from Lake Fran Tr to I-4 at Michigan	On-street	Med		11,770	2.2	0	60	20	20	100	80	0	**44**
W	44	Lake Lawne Trail	Trail	Med		21,199	4.0	100	60	0	20	80	60	0	**44**
W	11	Shingle Creek Spurs	Trail	Low	Majority outside City boundaries	7,510	1.4	0	20	40	20	80	100	0	**42**
E	18	Englewood Park Tr (Jackson MS, Englewood ES)	Trail	Med		12,166	2.3	0	40	40	0	100	80	0	**42**
E	36	Andes Ave, Lake Underhill Path to Fairgreen St	Trail	---	To be developed by GOAA	8,092	1.5	0	60	20	0	80	60	50	**41**
E	16	Azalea Park Tr, Lake Underhill Path to Goldenrod Rd	Trail	---	Included in Orange Co Trails Master Plan	10,687	2.0	0	60	20	20	60	80	0	**40**
S	42	N-S Corridor, Avalon Tr to Heintzelman Blvd	Trail	Low		20,361	3.9	0	60	0	20	80	60	50	**39**
E	39	E-W Corridor (Sand Lake Rd), Boggy Creek Rd to Shingle Creek Tr	Trail	Low	Majority outside City boundaries	36,396	6.9	0	60	0	80	60	60	0	**38**
W	2	OBT Tr, Lake Lawne Tr to Trotters Park	Trail	Low		20,245	3.8	0	60	0	20	80	80	0	**38**
W	3	Barley St/Mercy Dr On-Street, Obama Pkwy to Lake Lawne Tr	On-street	Low		10,225	1.9	0	60	0	20	60	80	0	**36**
E	19	Azalea Park Tr, Power Easement to Avalon Tr	Trail	---	Included in Orange Co Trails Master Plan	10,659	2.0	0	60	0	0	80	80	0	**36**
E	40	N-S Corridor, Downtown Connector to Sand Lake Rd/Boggy Creek Rd	On-street	Low		39,874	7.6	0	60	0	20	60	60	0	**32**
W	4	Shingle Creek Tr Spur to Carver MS	Trail	Low		3,710	0.7	0	20	0	0	100	80	0	**30**
S	28	Boggy Creek/Southport Tr, Boggy Creek Rd to Jetport Dr	Trail	Low		16,205	3.1	0	60	0	0	100	40	0	**30**
W	37	Shingle Creek Tr Spur to Valencia College	Trail	Low		4,900	0.9	0	20	0	20	80	80	0	**30**
S	25	Dowden Rd-Lake Nona Connector Tr	Trail	---	To be developed by GOAA/Lake Nona	15,041	2.8	0	60	0	0	80	20	50	**29**
S	24	Narcoossee Rd Tr, Lake Nona Blvd to Lake Nona HS	Trail	Low		9,639	1.8	0	60	0	0	80	20	0	**24**
S	45	Boggy Creek Rd Tr, Tradeport Dr to Meadow Woods Tr	Trail	Low		20,333	3.9	0	60	0	0	80	20	0	**24**
S	43	East Airfield Perimeter Rd Tr	Trail	---	To be developed by GOAA	20,022	3.8	0	60	0	0	80	20	0	**24**
S	22	Lake Nona Gas Easement Tr, E of Narcoossee Rd	Trail	Low		6,319	1.2	0	60	0	0	20	40	0	**22**
S	27	Meadow Woods Tr, Boggy Creek Rd to Lake Nona Blvd	Trail	---	Included in Orange Co Trails Master Plan	10,848	2.1	0	60	0	0	60	20	0	**22**
S	41	OIA Intermodal Terminal Complex Connector	Trail	---	To be developed by GOAA	20,397	3.9	0	20	0	0	80	20	50	**21**
S	23	Narcoossee Rd Tr, Lake Nona Gas Easement to Lake Nona Blvd	Trail	Low		8,440	1.6	0	60	0	0	0	40	0	**20**
E	14	Vista East Power Line Easement Tr, Avalon Tr to Lee Vista Blvd	Trail	Low		16,266	3.1	0	40	0	0	40	40	0	**20**
E	15	Vista East Power Line Easement Tr, Lee Vista Blvd to SR 528	Trail	Low		13,641	2.6	0	40	0	0	20	20	50	**19**
S	21	Randall Johnson Tr Loop, SR 528 to Innovation Way N	Trail	---	Private development	24,397	4.6	0	60	0	0	20	20	0	**18**
S	20	Vista East Tr, SR 528 to Innovation Way	Trail	Low		12,744	2.4	0	60	0	0	0	20	0	**16**
S	26	Split Oak Forest Tr, E of Narcoossee Rd	Trail	---	Outside City boundaries	23,143	4.4	0	20	0	0	0	20	0	**8**

CITY OF ORLANDO
City Wide Trail Plan

Initial Trail Study Prioritization Criteria

Criteria	Scoring	Points	Weight
Connects to Statewide Trail Corridors	Connects to the planned Coast to Coast (C2C) Connector Trail via the West Orange Trail/Pine Hills Trail	100	10%
Connects Directly to Other Local/Regional Trails (either existing or planned sections)	Direct connection to the Orlando Urban Trail (OUT)	100	20%
	No direct connection to OUT but direct connection to more than 2 other trails	60	
	No direct connection to OUT, but direct connection to 2 other trails	40	
	No direct connection to OUT, but direct connection to 1 other trail	20	
Connects to Significant/Iconic Orlando Landmarks/Areas [1]	Direct connection to two or more significant/iconic landmarks/areas	100	20%
	Direct connection to one significant/iconic landmark/area	80	
	Indirect connection within 0.25 mile to two or more significant/iconic landmarks/areas	60	
	Indirect connection within 0.25 mile to one significant/iconic landmark/area	40	
	Indirect connection within 0.5 mile to one or more significant/iconic landmarks/areas	20	
Connects to Other Area Transit/Transportation Systems	Direct connection to SunRail station, Lynx Superstop, or Park-n-Ride Lot	100	10%
	Indirect connection within 0.25 mile to SunRail station, Lynx Superstop, or Park-n-Ride Lot	80	
	Indirect connection within 0.5 mile to SunRail station, Lynx Superstop, or Park-n-Ride Lot	60	
	Indirect connection within 1.0 mile to SunRail station, Lynx Superstop, or Park-n-Ride Lot	40	
	Connects to or crosses two or more Lynx bus routes and/or proposed BRT corridors	20	
Connects to Significant City Destinations [2]	Direct connection to two or more significant destinations	100	10%
	Direct connection to one significant destination	80	
	Indirect connection within 0.25 mile to two or more significant destinations	60	
	Indirect connection within 0.25 mile to one significant destination	40	
	Indirect connection within 0.5 mile to one or more significant destinations	20	
Total Population and Employment Served per mile of trail length (within ½ mile buffer of trail corridor)	Total population + employment per mi of trail length, within 0.5 mile of trail corridor >= 10,000	100	20%
	Total population + employment per mi of trail length, within 0.5 mile of trail corridor >= 5,000	80	
	Total population + employment per mi of trail length, within 0.5 mile of trail corridor >= 3,000	60	
	Total population + employment per mi of trail length, within 0.5 mile of trail corridor >= 2,000	40	
	Total population + employment per mi of trail length, within 0.5 mile of trail corridor < 2,000	20	
Improves Safety or Removes Barriers [3]	Provides a connection across two or more significant barriers for bicycling and/or walking	100	10%
	Provides a connection across a significant barrier for bicycling and/or walking	50	
Total			**100%**

Orlando Trail Plan Initial Prioritization Criteria Notes:

[1] Significant/Iconic City Landmarks/Areas include the following:

- City Venues:
  - Amway Center
  - Dr. Phillips Performing Arts Center
  - Citrus Bowl
  - Orlando City Soccer Stadium
- Main Street Districts:
  - College Park
  - Ivanhoe Village
  - Audubon Park Garden District
  - Mills 50
  - Thornton Park
  - Church St
  - Downtown South
  - Semoran Bv (Market Street)
- Lake Eola Park
- Leu Gardens
- Loch Haven Park (includes Orlando Science Center)
- I-Drive MSTU
- Universal Orlando
- Mall of Millenia
- Fashion Square Mall
- Prime Outlets/Festival Bay Mall

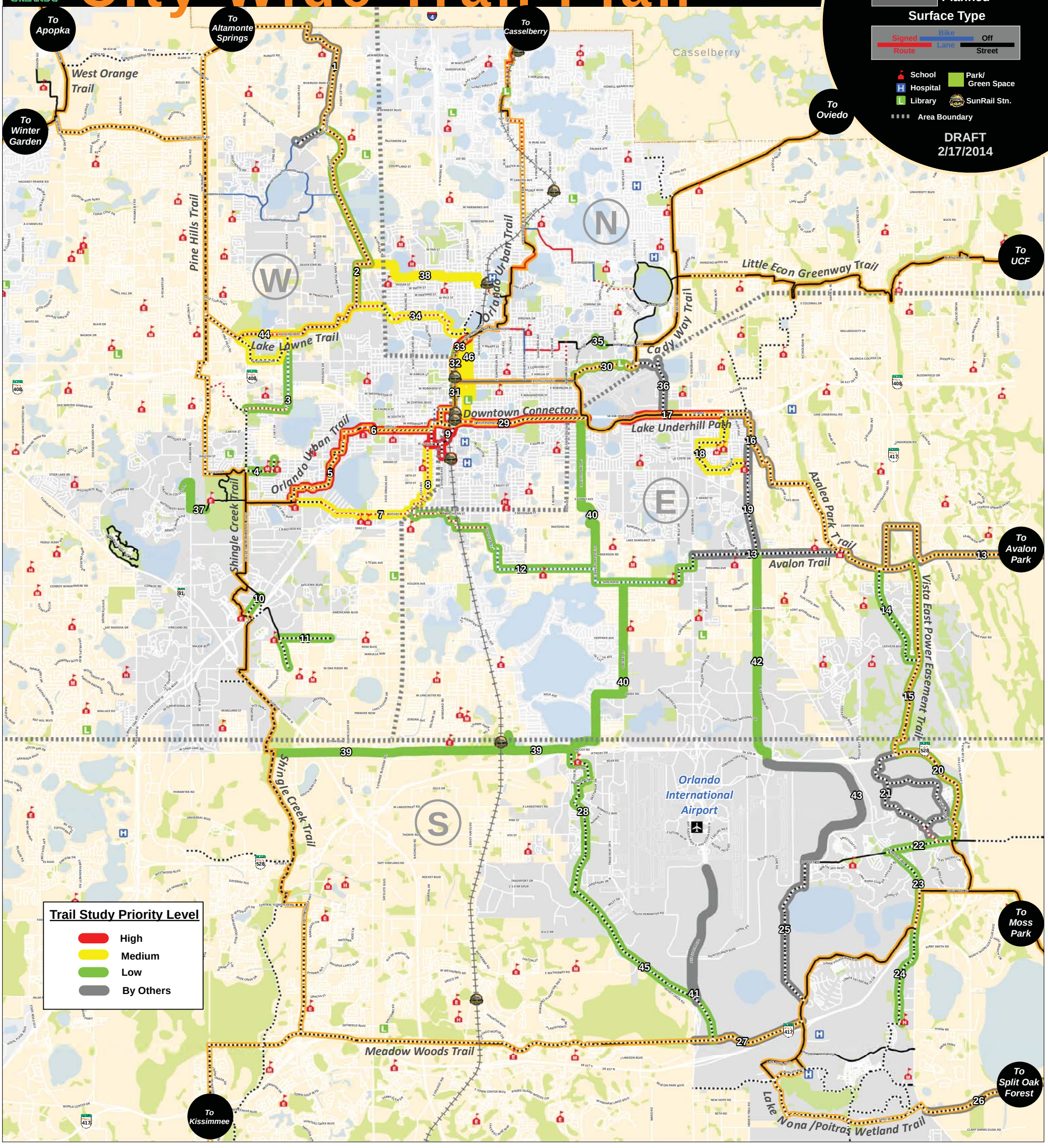
[2] Significant City Destinations include the following:

- Public schools
- Colleges and Private Schools
- Parks (min. size of 2 acres)
- Libraries
- Senior/Community/Recreation Centers
- Major employers/employment areas:
  - Orlando CBD
  - Florida Hospital
  - Orlando Health
  - Medical City
  - Orlando International Airport
  - Orlando Executive Airport

[3] Barriers include limited access highways (e.g., I-4, SR 408), significant natural features (lakes, canals, etc.), and principal 6-lane arterials with documented pedestrian/bicycle crash history (e.g., OBT)

CITY OF ORLANDO

City Wide Trail Plan



CITY OF ORLANDO
City Wide Trail Plan

Trail Plan
Existing
Programmed
Planned

Surface Type

Signed Route | Bike Lane | Off Street

- School
- Park/ Green Space
- Hospital
- Library
- SunRail Stn.
- Area Boundary

DRAFT
2/17/2014

North Area Study Priority Level

- High
- Medium
- Low
- By Others

Orlando Urban Trail

Downtown Connector

Little Econ Greenway Trail

Cady Way Trail

Lake Underhill Path

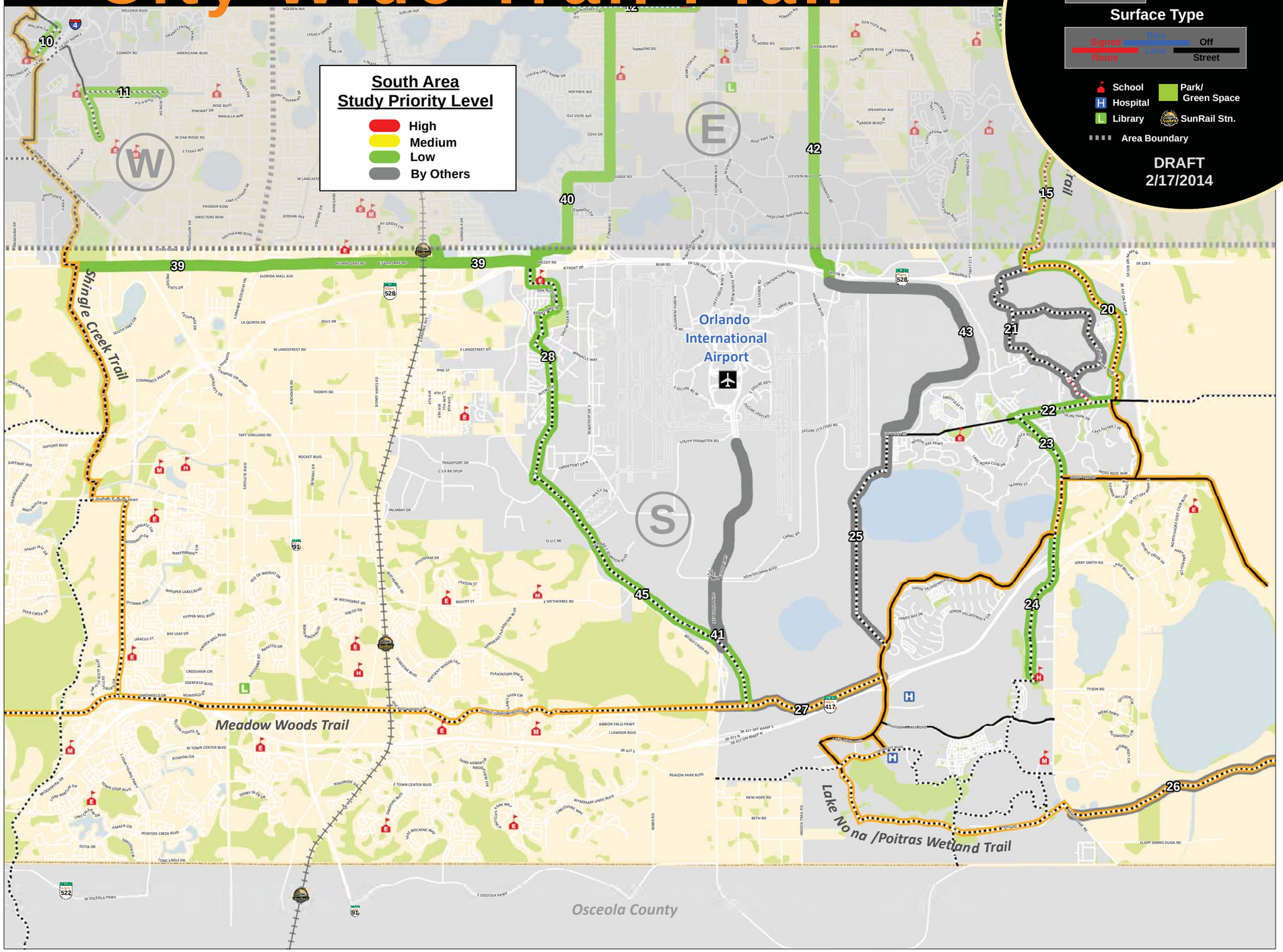
N

W

E

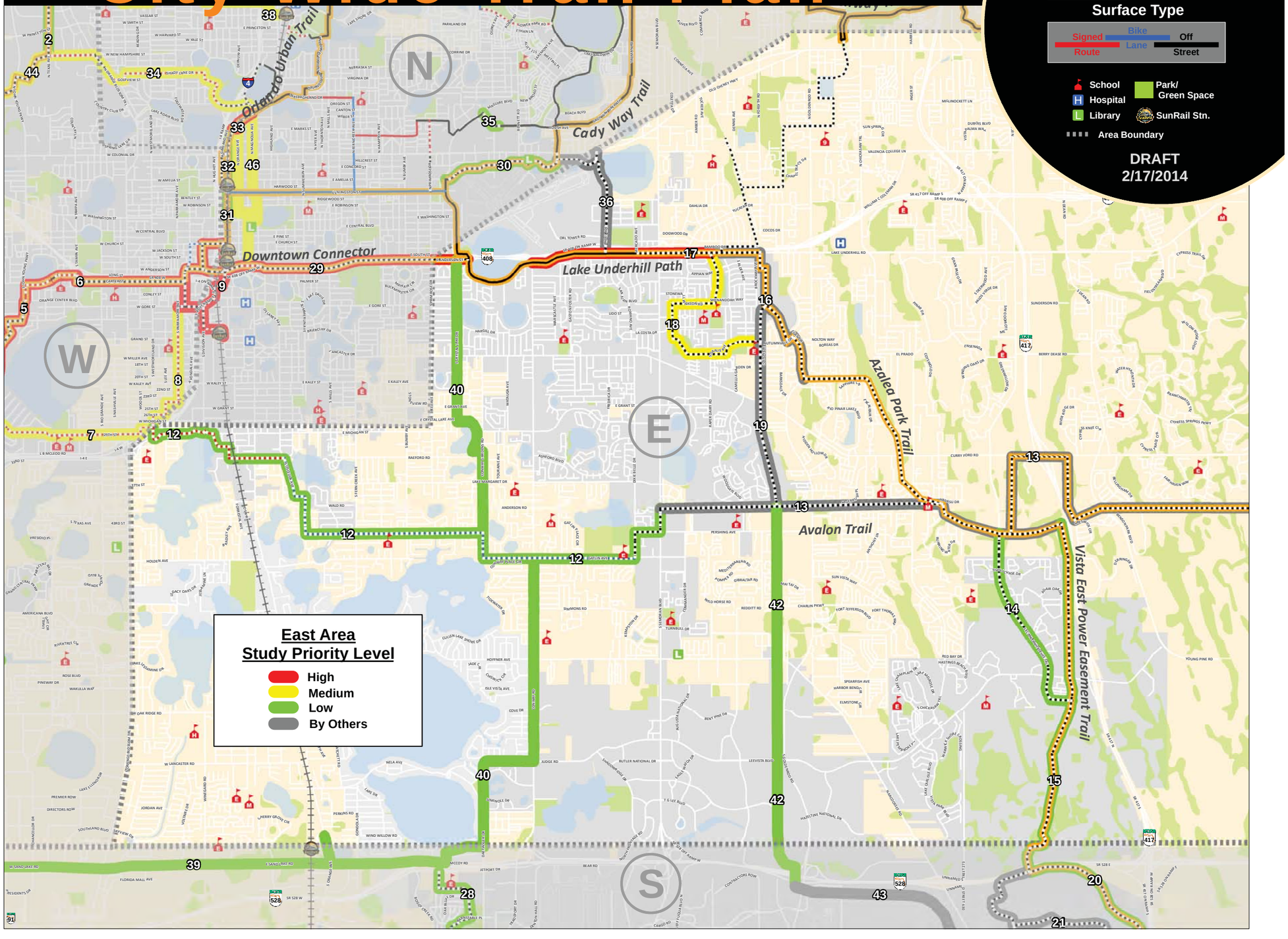
CITY OF ORLANDO

City Wide Trail Plan



CITY OF ORLANDO

City Wide Trail Plan



Trail Plan
Existing
Programmed
Planned

Surface Type

Signed Route | Bike Lane | Off Street

School
Hospital
Library
Park/ Green Space
SunRail Stn.
Area Boundary

DRAFT
2/17/2014

CITY OF ORLANDO
City Wide Trail Plan

BIKE ORLANDO

Trail Plan
Existing
Programmed
Planned

Surface Type

Signed Route | Bike Lane | Off Street

- School
- Hospital
- Library
- Park/ Green Space
- SunRail Stn.
- Area Boundary

DRAFT
2/17/2014

West Area
Study Priority Level

- High
- Medium
- Low
- By Others

West Orange Trail
Pine Hills Trail
Lake Lawne Trail
Orlando Urban Trail
Shingle Creek Trail
Orlando Urban Trail
Downtown Connector
Orlando Urban Trail

W
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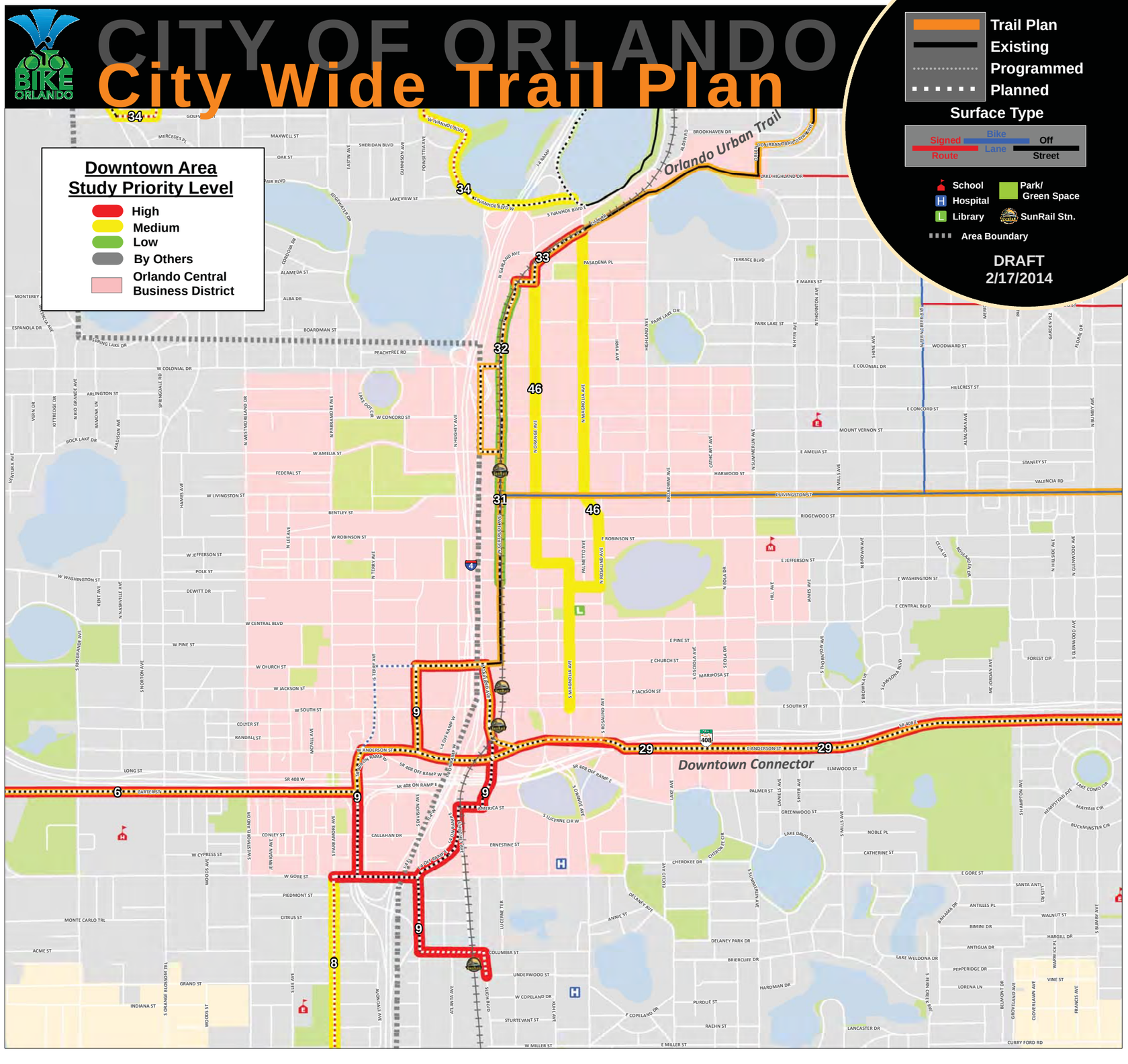
CITY OF ORLANDO

City Wide Trail Plan


Downtown Area
Study Priority Level
High
Medium
Low
By Others
Orlando Central
Business District
Trail Plan
Existing
Programmed
Planned
Surface Type
Signed Route
Bike Lane
Off Street
School
Hospital
Library
Park/ Green Space
SunRail Stn.
Area Boundary
DRAFT
2/17/2014
Orlando Urban Trail
Downtown Connector
W IVANHOE BLVD
S IVANHOE BLVD
E IVANHOE BLVD
LAKEVIEW ST
PASADENA PL
TERRACE BLVD
E MARKS ST
PARK LAKE ST
WOODWARD ST
E COLONIAL DR
HILLCREST ST
E CONCORD ST
MOUNT VERNON ST
E AMELIA ST
STANLEY ST
VALENCIA RD
HARWOOD ST
E LIVINGSTONST
RIDGEWOOD ST
E ROBINSON ST
E JEFFERSON ST
E WASHINGTON ST
E CENTRAL BLVD
E PINE ST
E CHURCH ST
E JACKSON ST
E SOUTH ST
W COLONIAL DR
W CONCORD ST
W AMELIA ST
FEDERAL ST
W LIVINGSTON ST
BENTLEY ST
W ROBINSON ST
W JEFFERSON ST
W WASHINGTON ST
W CENTRAL BLVD
W PINE ST
W CHURCH ST
W JACKSON ST
W SOUTH ST
COLYER ST
RANDALL ST
W ANDERSON ST
SR 408 W
SR 408 ON RAMP W
SR 408 OFF RAMP W
SR 408 ON RAMP E
SR 408 OFF RAMP E
E ANDERSON ST
SR 408 E
ELMWOOD ST
GARTER ST
LONG ST
AMERICA ST
ERNESTINE ST
CALLAHAN DR
CONLEY ST
W CYPRESS ST
W GORE ST
PIEDMONT ST
CITRUS ST
MONTE CARLO TRL
ACME ST
GRAND ST
INDIANA ST
COLUMBIA ST
UNDERWOOD ST
W COPELAND DR
STURTEVANT ST
W MILLER ST
E COPELAND DR
E MILLER ST
PURDUE ST
RAEHN ST
LANCASTER DR
CURRY FORD RD
DELANEY PARK DR
BRIERCLIFF DR
LAKE WELDONA DR
HARDMAN DR
PEPPERIDGE DR
LORENA LN
VINE ST
ANTIGUA DR
BIMINI DR
HARGILL DR
WALNUT ST
ANTILLES PL
SANTA ANITA DR
GREENWOOD ST
PALMER ST
NOBLE PL
CATHERINE ST
CHEROKEE DR
LAKE DAVIS DR
LAKE COMO CIR
MAYFAIR CIR
BUCKMINSTER CIR
HEMPSTEAD AVE
S LUCERNE CIR W
S ORANGE AVE
S MILLS AVE
S HAMPTON AVE
S ROSALIND AVE
S MAGNOLIA AVE
S OLIVE AVE
S ORANGE BLOSSOM TRL
S LEE AVE
S NORTON AVE
S ROGERS AVE
S TERRY AVE
S DIVISION AVE
S PARRAMORE AVE
S WESTMORELAND DR
S HUGHEY AVE
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N TERRY AVE
N FOLA DR
N BROWN AVE
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S LUCERNE CIR W
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S CATHCART AVE
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N BROWN AVE
N GLENWOOD AVE
N HILDSIDE AVE
MERCEDES PL
MAXWELL ST
OAK ST
SHERIDAN BLVD
EASTN AVE
GUNNISON AVE
PORKSTTIA AVE
I-4 RAMP
BROOKHAVEN DR
ALDEN RD
LAKE HIGHLAND DR
EDGEWATER DR
CONCORDE DR
ALAMEDA ST
ALBA DR
BOARDMAN ST
ESPANOLA DR
MONTEREY
SPRING LAKE DR
PEACHTREE RD
PARK LAKE DR
HIGHLAND AVE
IOWA AVE
ARLINGTON ST
VERN DR
KITTRIDGE DR
N BIG GRANDE AVE
RAMONA LN
MADISON AVE
SPRINGDALE RD
ROCK LAKE DR
VENTURA AVE
HAMIS AVE
LAKE DOT CIR
MONTEREY
SPANISH AVE
MCFALL AVE
LAKE ANDERSON
I-4 OFF RAMP W
I-4 ON RAMP W
I-4 ON RAMP E
I-4 OFF RAMP E
SR 408 OFF RAMP W
SR 408 ON RAMP E
SR 408 OFF RAMP E
SR 408 E
E ANDERSON ST
W ANDERSON ST
LAKE ANDERSON
I-4
SUNRAIL
SUNRAIL
SUNRAIL

Appendix C – Public and Stakeholder Comments

HDR | ONE COMPANY *Many Solutions*℠

Meeting Notes

Subject:	Agency Kickoff Meeting
Client:	City of Orlando
Project:	Orlando Primary Bicycle Route Study
Project No:	220753
Meeting Date:	February 18, 2014
Meeting Location:	HDR Office
Notes by:	J. Krzeminski / J. Arms / J. McGlashan

Attendees:

Name	Organization	Email
Joan Carter	FDOT	joan.carter@dot.state.fl.us
Laura Minns	LYNX	lminns@golynx.com
Ric Dy-Liacco	OUC	rdyliacco@ouc.com
Dan Seabrook	OUC	dseabrook@ouc.com
Tim Maslow	City of Winter Park	tmaslow@cityofwinterpark.org
Butch Margraf	City of Winter Park	wmargraf@cityofwinterpark.org
Lisa Portelli	Winter Park Health Foundation	lportelli@wphf.org
Nathan Silva	Atkins (for OOCEA)	nathan.silva@atkinsglobal.com
Tara McCue	East Central Florida RPC	tara@ecfrpc.org
Bill Thomas	Orange County	bill.thomas@ocfl.net
Brian Sanders	Orange County	brian.sanders@ocfl.net
Mark Dana	Orange County	mark.dana@ocfl.net
Ian Sikonia	City of Orlando	ian.sikonia@cityoforlando.net
Jeremy Crowe	City of Orlando	jeremy.crowe@cityoforlando.net
Marc Ispass	City of Orlando	marc.ispass@cityoforlando.net
Jeff Arms	HDR	jeffrey.arms@hdrinc.com
Steven Waterston	HDR	steven.waterston@hdrinc.com
Jason McGlashan	HDR	jason.mcglashan@hdrinc.com
Jamie Krzeminski	HDR	jamie.krzeminski@hdrinc.com
Ginger Hoke	Hoke Design	ginger@hokedesign.com

Topics Discussed:

- Project Overview/Introduction
- Initial Corridor Prioritization Screening and High/Medium/Low Priority Corridors for Evaluation
- Connections between Municipalities or Jurisdictions
- Key Issues/Concerns and/or Opportunities Related to Specific Corridors

Action/Notes:

- Ian provided an intro to the project.
- Introductions were completed.
- Jamie provided an overview of the project through the prepared presentation.
- Question from Lisa Portelli on why safety was not scored as high? Jamie responded that it was more relative to the barriers. Safety had not been looked at in detail at this point.
- Jamie talked about the areas that were going to get more study:
    - Downtown Connector – Lake Underhill Path

    - Orlando Urban Trail Connections
    - Need to coordinate with power companies

- Tara suggested switching the prioritization percentages for employment with local destinations/landmarks.
- Tara – Asked about Rosalind what the area or plan was. Response, looking at modifications to dedicated bike lanes.
- Jeff clarified that we will look into the network changes but will not be able to decide all the details related to engineering for each location.
- Joan brought up bike crash locations maps from FDOT, which could serve as a proxy for demand. Looking at Oak Ridge and how many crashes had occurred in that area. One issue is that the maps are lacking crashes on the state roads.
- Jeff clarified that the criteria tweaks or minor changes would not necessarily impact the outcome of the priorities. It's more important to look at the priorities and see if they make intuitive sense.
- Jeremy clarified that we will get into safety more as we work out the details of projects.
- Laura highlighted that Lynx was working on Gertude's Walk and looking at bike share connections. The RIDA property will have atrial connection to the Lynx Central Station Sunrail platform.
- Laura wants to look at high frequency transit routes and conflicts with bikes. Conflicts between bike lanes, parking, and transit (crossing and weaving) are a concern – Orange and Rosalind are key corridors.
- Laura suggests that we should look at policy regarding shared bus lane/bike lanes.
- Laura mentioned a new superstop location in the Pine Hills/SR 50 area, and agreed we should add superstops on the map.
- Laura talked about bike share and bike parking along high frequency corridors (Rosalind, Orange, SR 50, Ameila, Washington, Division, OBT).
- Ric said to expect conflicts with utilities, and additional right-of-way is key to relocating any facilities. OUC is willing to work with the City and he can provide maps of utility corridors as we move ahead with specific corridors. We can also set up a meeting with OUC staff to review right-of-way maps and corridors for feasibility.
- Ginger asked Ric if there are future projects. None specifically.
- Nathan Silva represented OOCEA and mentioned that the Downtown Connector makes sense from a connectivity standpoint, but we need to look at safety details at crossings (education, awareness, signage, geometry). He referenced the recent student bike fatality near SR 417/Landstar.
- Bill asked about the Sand Lake Trail Route. This was discussed as a general desire network connection, but the specific alignment has not been determined. Bill mentioned east-west connections are tough, but perhaps something could be included in the OIA Refresh or Maglev corridors. Orange County can send any GIS data needed.
- A potential additional connection was discussed by County staff through Metrowest from Shingle Creek to Turkey Lake Park. This could potential even be extended further west from Turkey Lake Park to Horizons West and Windermere.
- Joan asked about County connection opportunity connections and crossing county intersections
- Winter Park discussed the Denning to Orlando Urban Trail connection and how it was an obvious connection, and that this route could also be connected to the development near Lee and 17/92 intersection area (Rauvadage). Butch mentioned the updated transportation plan is available.
- Lisa discussed design-related issues (such as no bollards) and mentioned Mighk Wilson's presentation on crossing treatments and crash statistics. She also mentioned that private land owners are exempt from liability if allowing the use of the property for recreational use.

- Tara discussed signage and wayfinding, including courtesy on trail and educational signage (e.g., ring bell, pass on left, yield to pedestrians, etc.).
- Tara mentioned that Pershing Elementary School has lots of walkers.
- Tara would like to receive the final data for inclusion into CFGIS.
- Map markups/comments:
    - Jeremy: connect Maguire path between Fairgreen and Cady Way Trail
    - Tara: Connect Andes Ave/OEA path to Azalea Park School (Brosche Rd, Carol Ave, possible tie-in to Park of the Americas).
    - Tara: Lake Nona/Narcoossee Trail – extend south from Lake Nona High School to Poitras/Lake Nona Wetland Trail *[Note: although not shown on the working map, this connection is already included in the City's plan and Lake Nona trails system]*.
    - Tara: Connect Azalea Park Trail north of Lake Underhill Rd to Colonial High School and Forsyth Woods Elementary School *[Note: This section is within Orange County, not City of Orlando]*.
    - Joan: Review direct connection at Avalon Trail/Vista East Power Easement Trail at SR 417 *[Note: the direct connection is included in the Orange County Trails Master Plan and will be shown on final maps]*.
    - Bill: Extend trail from Metrowest/Valencia College to Turkey Lake Park (and consider extending further west to Horizons West).

Orlando Primary Bike Routes Study

Summary of Comments from Public Meeting
Meeting Date - Feburary 18, 2014

Comment #	Trail Segment	Comment	Contact Information
1	Lake Formosa, FL. Hospital, Baldwin Park	Off-road trails parallel to Corrine Dr.	
2		I-4 bike underpass for Princeton	
3		Tributaries around Florida Hospital South (Rollins) as there are a large number of active bikers.	
4		Add lighting to the trail from Apopka to the West Orange Trail Apopka-Vineland Outpost	mefa0707@yahoo.com
5	39	A strong focus on facilities for SunRail commuters from the Station at Orange Ave. and Sand Lake traveling west on Sand Lake Rd. to I-4.	Leslee Mitchell lmitchell82@gmail.com
6	33	My thoughts for the OUT segment between Highland Dr. and Ferris Ave. is for the City to close Lake Highland Dr. at Ferris Ave. and turn that city owned land into a park. The asphalt can be recycled into future street improvements, saving the City perhaps $1 million. I have also thought that for funding improvements to the park a cul-de-sac off of Terrace Blvd. could be installed and 4 premium lots could be platted and sold. Parking lots could be installed at either end of Lake Highland Park and the park should include a dog park, nice trees for shaded areas, etc. Give people some place to go that does not cost money, such as world class cities do. **(Please copy and send to Beth Gruber with the City)**	Yannick Kinnie ygk007@yahoo.com Beth Gruber beth.gruber@cityoforlando.net
7		I would recommend reviewing the bike/pedestrian plan in the metro Denver, Co. area. They have a very advanced design that has been in place for over 20 years.	
8	39	Work with local/ Non-Orlando City to expand/improve routes outbound from SunRail Stations.	Melody Read, 940-463-5639
9		Please send the Priorization Chart to me	David Bottomley michamocha18@yahoo.com
10		Primrose Dr / Peel Ave is better for bike lanes and traffic since it is more reasonable to slow restricted traffic. It is a quiet street, more quiet and less of a thoroughfare than S. Crystal Lake.	
11		Need bike lanes through Parramore	Vashon Sarkisian, 407-538-8803
12		Provide connections from the Orlando Urban Trail to Baldwin Park using Virginia, Forest Ave, and Corrine Dr. Also, provide the following connections: Fern Creek north to Virginia; Corrine north on Winter Park Rd. to Glenridge Way; Corrine north along General Rees Ave.	Vashon Sarkisian, 407-538-8803
13		Provide connections from the Orlando Urban Trail to Baldwin Park.	Mark Lanker, 407-493-3542 Jim Hall, 407-257-9235 Mark Gauther, 407-496-2503
14		Provide connection from the Orlando Urban Trail west along E. Rollins St to Alden Rd at Princton	Mark Inglert
15	34	Provide connection starting at Shady Ln and Poinsettia Ave. north to NW Ivanhoe Blvd. Then head east on Ivanhoe to New Hampshire St. Head west to Formosa Ave. then north on Formosa to Mathews Park Ivanhoe should be set up like Livingston	Mark Suarez, 407-590-9643
16		The Orlando Urban Trail through Mead Gardens is closed and scary at night	
17		Lots of bike traffic along Orange Ave and Kaley between ORMC and Rio Grande Ave.	
18		Need to upgrade sidewalk path along Anderson within the limits of the Greenwood Urban Wetland and Greenwood Cemetery	
19		Light cycle too long at E. Robinson St. and Fern Creek Ave.	
20		Better markings and signage for non-bikers along Washington St.	
21		The light at E. Livingston St. and S. Crystal Lake Dr does not pick up bikes	
22		The Cady Way Trail is dark and scary at night.	
23		Repaint bike lanes using bright and reflective colors along E. Livingston St. and N. Fern Creek Ave.	J. Monczka
24		The light at Mills Ave. and Colonial Dr. does not pick up bikes	
25		There are several unnecessary stop signs at Highland Ave. and Concord St.	
26		Provide connection from Corrine Dr. around the north side of Leu Gardens connecting to the Orlando Urban Trail.	Jim Hall, 407-257-9235
27		There is a bad fence at the end of the Cady Way Trail on Coy Dr.	

Topic Name: Where Would You Like to See Future Trails Constructed?

Idea Title: Virginia & Corrine Drives

Idea Detail: I believe creating bike/ped friendly infrastructure along Virginia/Corrine Dr. stretching from N. Orange Ave. to Bennett Rd (Baldwin Park) would be a great way to increase the value of existing Orlando Urban and Cady Way trails and strengthen connectivity between a lot of vibrant neighborhoods - Baldin Park, Mills/50, College Park, Colonial Town, and Downtown. The existing east/west bicycle route (Livingston) is great, but once one gets north of Colonial east/west travel becomes a convoluted maze through neighborhoods with less-than-ideal crossings at Mills & Bumby.

When I'm pressed for time, I ride Corrine/Virginia instead of the neighborhoods but it's not exactly pleasant and safe - traffic moves at a pretty good pace, the pavement is deteriorating, and the on-street parking complicates matters. I feel that with on-street parking on both sides, 4 traffic lanes, and a center turnlane there are multiple options for a safe bicycle route. Perhaps a road diet like Edgewater Dr??

Idea Author: Patrick P

Number of Seconds 0

Number of Points 64

Number of Comments 9

Comment 1: I never understood why Bennett Rd was paved a year ago, when Corrine is much more in need of repair. Making it one lane would be cool too. I don't know if those parking spaces are really needed or used that often. A dedicated bike lane would be nice. | By Carlos V

Comment 2: Patrick,

Thank you for providing input to the City of Orlando. The bicycle study will be analyzing connections to Leu Gardens and Corrine Drive, which will hopefully address your concerns. I will forward your comment onto the bicycle study's consultant for their review.

Thanks again. | By Ian S

Comment 3: Does Corrine need to be 5 lanes? Traffic could be slowed in that area with the

subtraction of a lane and the introduction of a separated bike lane. | By Jessica M

Comment 4: Improving Corrine Drive and/or Virginia Drive and Nebraska is something we must do since this would connect Baldwin park, Audubon Park with South Winter Park to College Park and to Orlando on the Orlando urban trail, which is now getting a bridge over Colonial Dr. near the tracks, and the Florida Hospital SunRail station. It would be an important part of a North Orlando Bicycle connectivity breakthrough. | By Robert F

Comment 5: While I like the effort the city has made to designate a route connecting Cady Way and the Dinky Line, I agree that dedicated lanes on these roads would be a HUGE improvement over simply marked routes. | By Adrian L

Comment 6: Corrine and it's businesses would benefit from a road diet combined with a cycle track connecting Baldwin Park to the Orlando Urban Trail. | By Richard G

Comment 7: When I'm biking between Ivanhoe and Audubon, I usually take the back street route through Rose Isle, across the little bridge on Lakeshore Drive, then to Corrine. That route avoids some of the most hazardous sections along Virginia, but there are squeeze points along Lakeshore which could be improved for bike access. A road diet for Corrine and Virginia east of 17-92 would be best. | By Gordon S

Comment 8: Virginia Drive / Corrine Drive are traveled by numerous bicyclists (because of Audubon District presence). It would be nice to have a bike lane from OUT (at The Fresh Market) going down Nebraska St along the side of Harry P Leu Gardens. Riding down Virginia Drive can get get scary at times during the morning or evening hours when drivers have the sun in their face... plus parked cars to maneuver around.

A separated bike lane along Corrine (it's definitely wide enough) would be very welcome as well. | By Brian O

Comment 9: I totally concur with Patrick. Let's focus on making the streets safer for bikers! | By Tommy B

Idea Title: Make all of downtown bike friendly

Idea Detail: Living in downtown it is hard to get anywhere with cobblestone, TIGHT road lanes that accomodate street parking more than bikers, and sidewalks congested with pedestrians forcing you to use the roads without a bike lane.

We need bike lanes on the major intersections throughout downtown such as Rosalind, Anderson, South, Summerlin, etc.

Idea Author: Andrew C

Number of Seconds 0

Number of Points 42

Number of Comments 2

Comment 1: Andrew,

Thank you for providing input to the City of Orlando. The bicycle study will be analyzing Downtown Orlando, which will hopefully address your concerns. I will forward you comment onto the bicycle study's consultant for their review.

Thanks again.
| By Ian S

Comment 2: I agree with making all of downtown bike friendly. I'm not sure wide streets or bike lanes are always the answer. On street parking can slow cars down and make the street more bike friendly. Consider Central Avenue on Lake Eola versus Robinson. I'd rather ride down Central. | By Eliza H

Idea Title: Connection from Dinky Line Trail to Winter Park

Idea Detail: This idea is really an elaboration of Eliza Harris' idea "Daylight connections to Winter Park". As many cyclist know, the creekside trail through Mead Gardens is by far the most direct route from the Dinky Line Trail (a.k.a. Orlando Urban Trail) to downtown Winter Park and Rollins College. Not only is the trail closed at night, but the creekside trail has many grade changes, protruding roots, and unsafe grade dropoffs adjacent to the creek. Developing the Mead Gardens creekside trail as a true cycling/multiuse with smooth grades and safe creekside railings would be a huge benefit to cyclists traveling between Winter Park and the Loch haven/Ivanhoe/Mills50 area. Night-time lighting and 24-hour open gates would also be great!

Idea Author: Gordon S

Number of Seconds 0

Number of Points 40

Number of Comments 2

Comment 1: Gordon,

Thank you for providing input to the City of Orlando. I will forward your comment onto the bicycle study's consultant for their review.

Thanks again and please check back for updates.
| By Ian S

Comment 2: I think that would be great. Even with lighting I would probably prefer to take a more populated route late at night. It would be great to have two options. | By Eliza H

Idea Title: Don't *build* more trails, define a network on existing streets.

Idea Detail: Building full trais is incredibly costly and is really ineffective at getting people out on bikes for everyday purposes. Instead, define a full network of bike-friendly routes on existing streets.

And rather than signs everywhere, use road paint - a simple green, reflective logo painted at each intersection indicating direction and route number would go a long way.

Add protected bike lanes (Corrine, Edgewater, Anderson) and add bike parking near businesses where bike routes are nearby.

Idea Author: Ian S

Number of Seconds 0

Number of Points 37

Number of Comments 11

Comment 1: Ian,

Thank you for providing input to the City of Orlando. The bicycle study will be analyzing the feasibility of adding protected bike lanes, which will hopefully address your concerns.

Thanks again. | By Ian S

Comment 2: I agree we need a stronger network. I think one of the major takeaways from this

topic should be that what we are really look for is not so much recreational trails in as much as we all want a stronger network to use our bicycles as a means of transportation. | By Sam G

Comment 3: I agree. Emphasis should be given to biking as an efficient means of transportation, not merely as recreation. | By Tommy B

Comment 4: I think we need both: bike trails for regional travel, protected bike lanes on streets like Corrine and Anderson (Edgewater might be hard to do), and green paint for bike lanes.

While we are on green paint, why are all the new Lymmo lanes just standard black. Why not advertise Orlando as "progressive" by painting them and help scare away the cars from entering them. | By Jonathan A

> Comment 5: If there is budget for both, then sure. I recall that the Dinky Line cost quite a lot to acquire land. | By Ian S

Comment 6: I don't agree at all. We need more dedicated bike trails. Don't just paint up and sign existing streets. Look at the Orlando Urban Trail. This is awesome and should be an example of how biking can be in the future in Orlando.

For people who are dedicated to biking, we need less opportunities for car accidents which means safer dedicated bike paths. I think the biggest obstacle to biking is a perceived danger of being hit by a car. I love to bike but my wife and daughter won't because there are just too many cars to look out for.

If more money needs to be spent so be it. It all depends on what priorities does the city have? If the city is serious about prioritizing biking then it should dedicate the funding for a truly safe network. | By Kenneth S

> Comment 7: Kenneth, I agree that the Dinky Line is good. However the cost to build just that one trail could have funded an entire network of shared-road bike routes. The model is not expandable.
>
> I agree that the perceived danger is the real obstacle, but why spend huge amounts of money to work around a perception? People will bike where other people are biking (a classic chicken / egg problem). If bikes are isolated only on trails, cars will never notice (and frankly, potential bikers will not notice either, so the trail will be under-used).
>
> With a full network of protected bike lanes in select areas, shared streets in others, and even dedicated streets where appropriate - like Magnolia Ave - everyone will see the bikers, which will encourage more people to try it (if they feel safe), and so

on. This pattern has been observed in many cities already - visibility of bikes, combined with safe biking spaces, results in more bikers than isolated (expensive) trails. | By Ian S

Comment 8: I agree bike trails are important for recreation. However, we also need to address biking as a means of transportation and frankly trails do not and cannot go everywhere. With SunRail and other transit options becoming available, people need to be able to access homes, offices, businesses, and transit stations. We need to provide safe means for them to do so. | By Sam G

Comment 9: Repurpose and reuse the current roads to meet the needs! | By Andrew C

Comment 10: I totally agree. Let's make the roads safer for bikers! | By Tommy B

Comment 11: This goes along great with my idea of developing a strategy of finding and mapping areas of quiet streets and linking them together with existing bikeways to potential good destinations. Corrine and Edgewater are very high on the list. I personally know Corrine better it would be a fabulous bike destination and very important E-W link to Science Center & Florida Hospital Sunrail Anderson is all important way to get across I-4 downtown along with a down town all important link making much better bike-ped link under tollway to S downtown. Road paint nice, but investigate colored asphalt - it won't wear out. Thanks. | By Robert F

Idea Title: Add Bike Lane on Princeton St

Idea Detail: I live in College Park and find biking along Princeton Street to be very dangerous. It would be really great to have a safe bike lane on Princeton Street, connecting Edgewater Drive to Mills Avenue. I can then safely bike to the facilities and events in Loch Haven Park, as well as the Urban Trail. Now would be a good time to configure a bike lane under a new constructed I-4/Princeton Street overpass.

Idea Author: Tommy B

Number of Seconds 0

Number of Points 37

Number of Comments 4

Comment 1: Tommy,

Thank you for providing input to the City of Orlando. I will forward you comment onto the

bicycle study's consultant for their review.

Thanks again.
| By Ian S

Comment 2: Yeah, that is literally one of the scariest places to bike. Pretty ironic that Critical Mass meets right near the Mills/Princeton intersection.
Also, Mills needs bike lanes from Robinson to Princeton. | By Pam E

Comment 3: I would add Winter Park Street just 2 blocks north of Princeton, It is a quiet street that goes under I-4 and ends at Orange Ave a short distance from Rollins. I would invest some money on this street, calm it if necessary to make it inviting and low stress for bicyclist. It is a good route since it takes you to the SunRail station, and the Orlando Science, Art and Theater Centers via Rollins, which could use some bicycle infrastructure. | By Robert F

Comment 4: I agree. The north side of Princeton from the Science Center/Rep entrance to Mills doesn't even have a *sidewalk*. | By Michael S

Idea Title: Connect the Dinky Line Trail to Mills50

Idea Detail: There is a little used alleyway behind the shops on the west side of Mills (US 17-92) from Highland to Marks that is City-owned right-of-way. This could be turned into a bike trail and, with the addition of some right-of way or easements, made into an extension of the Dinky Line Trail and connecting the Mills50 district with the Ivanhoe district. This area has one of the highest concentrations of cyclists, but Mills is a very unsafe cycling environment.

Idea Author: Gordon S

Number of Seconds 0

Number of Points 33

Number of Comments 1

Comment 1: Gordon,

Thank you for providing input to the City of Orlando. I will forward your comment onto the bicycle study's consultant for their review.

Thanks again.

| By Ian S

Idea Title: Roads to Trails.

Idea Detail: Rather than building new trails, convert under used roads to bike and pedestrian traffic. Cars have a plethora of options, most of which are not even used efficiently. Similar to the rails to trails program, decommission roads with little traffic to make bike/pedestrian friendly corridors across the city and region.

Idea Author: Erik S

Number of Seconds 0

Number of Points 33

Number of Comments 7

Comment 1: Erik,

Thank you for providing input to the City of Orlando. I will forward you comment onto the bicycle study's consultant for their review.

Thanks again. | By Ian S

Comment 2: I would definitely support reducing some roads to one lane/one direction. In addition to providing more space for bicycles and pedestrians, it would also calm traffic and can divert cars to reduce congestion on other streets. I can think of several roads that could be made into bike boulevards. | By Sam G

Comment 3: Roads to Trails is important because infrastructure patterns behavior. Organizing our city around roads for cars normalizes the automobile culture. It also creates bikers as a "problem" to motorists. Increasing the % of transportation infrastructure devoted to bikes relative to cars by converting roads would help to address this. Although it may be "inconvenient" for cars, the reorganization of our city to promote a more healthy and environmental city is worth the price. | By Erik S

Comment 4: I wouldn't like the idea of closing roads to car traffic for the most part but I agree with Kenneth on road diets and definitely slowing cars down so they're more comfortable for biking makes sense. Bike Boulevards are another good idea; sometimes they involve closing roads to cars or making them one way at specific entrances, though even that I would use sparingly. At some point I usually need to get on a main road to get where I'm going so making

those roads worse doesn't help me. | By Eliza H

Comment 5: Totally love this option. It would really create a bikeable city. | By Kenneth S

Comment 6: Such a great idea and one that could really take off! | By Andrew C

Comment 7: Road Diets are a great idea. Denning Drive in Winter Park is about to go on a diet. | By Kenneth S

Idea Title: Nebraska from Leu Gardens to Mills Park

Idea Detail: The idea is to use the north side of the ROW on Nebraska in Colonialtown to connect Leu Gardens to Mills Park and the Dinky Line Trail. This could then be extended to Audubon Park commerical and onwards to Baldwin Park. Some level of road diet on Corrine to improve parking and incorporate a trail would be great.

Idea Author: Scott S

Number of Seconds 0

Number of Points 32

Number of Comments 7

Comment 1: Scott,

Thank you for providing input to the City of Orlando. The bicycle study will be analyzing connections to Leu Gardens and Corrine Drive, which will hopefully address your concerns. I will forward your comment onto the bicycle study's consultant for their review.

Thanks again.
| By Ian S

Comment 2: Getting a dedicated bikeway all the way down Corrine to Nebraska or Virginia Dr. is important since this could be part of a good Northside Orlando E-W route, Florida Hospital SunRail Station, Orlando urban trail downtown and west to Edgewood and beyond | By Robert F

Comment 3: I agree about using the north side of Nebraska to connect the O.U.T. with the Audubon District area. It would make for a visually pleasant ride. Plus, an option to avoid the traffic on Virginia/Corrine. I would feel safer using Virginia/Corrine... if there was a separate

bike lane (there's definitely enough room for this to happen). The Audubon District is growing. I believe that a bike buffered lane down Corrine would be great for all of the businesses. | By Brian O

Comment 4: I know this site is mostly dedicated to biking but I envisioned this link to accommodate pedestrian needs, particularly the connection between Leu Gardens and Mills Park. I hit the trails several times a week for long hikes and this area could really use a friendlier option. | By Scott S

Comment 5: I would rather see biking infrastructure on a road-dieted Virgina/Ccorrine | By Jonathan A

Comment 6: I already use this. It's a great connection. A sharrow might be nice here to encourage cars to play nice. | By Eliza H

Comment 7: I thought about Nebraska as a viable alternative to Corrine, as well, but personally would like to see the bicycle traffic along the larger road for a number of reasons. Primarily, I would be concerned about the overal safety of a bike trail running through a neighborhood instead of one running through an active commercial corridor - at night, I prefer for there to be plenty of activity going on instead of isolating myself during my ride. Of course, I'm sure the businesses would prefer to have the traffic moving along their route, as well, and we've all heard the typical complaints that residents have when proposing trails through neighborhoods.

With all that said..Nebraska would probably be a great spot to have some sort of secondary pathways to support larger bikeway projects! | By Patrick P

Idea Title: Protected intersections

Idea Detail: I would love to see all intersections built like this:

Idea Author: Ian S

Number of Seconds 0

Number of Points 31

Number of Comments 3

Comment 1: Ian,

Thank you for providing input to the City of Orlando. I will forward your comment onto the

bicycle study's consultant for their review.

Thanks again.
| By Ian S

Comment 2: We could start with better visibility on intersections so all users, trucks & buses, cars, bicycles and pedestrians (not in any particular order) can see each other. Keep parked cars farther away from intersection corners. Next is making pedestrian bike path crossings clearly visible and raised up from the road. We need to enforce stopping before right turn on red and have more intersections with poor visible or heavy planned pedestrian use with no right turn on red! The biggest nut to crack is the state of Florida (FDOT rules), along with local zoning laws to have a city standard for intersections that won't kill pedestrians, designed for pedestrian and bicycle safety while keep all modes of traffic in motion.. | By Robert F

Comment 3: Especially with Orlando leading the nation as one of the most dangerous for pedestrians and cyclists, improving safety should definitely be a major focus. Other cities have also implemented separate traffic signals for bike lanes, giving them a head start at intersections for increased safety. | By Sam G

Idea Title: Develop World-Class Urban Cycle and Pedestrian Infrastructure

Idea Detail: Develop an urban hub of the region's greenway system to encourage economic development, increase system use, improve user safety, and to position the region as an international leader in complete streets implementation.

Indianapolis's Cultural Trail has become internationally recognized and awarded. The 8-mile, $63 million trail connects downtown's cultural districts and has spurred development as well as improved the user experience.

Orlando additionally benefits by offering year-round weather to allow for increased use. In addition, large projects of this sort become a magnet for millennials who are more focused on alternative transit options and green solutions. In turn, Orlando becomes more attractive for industries that rely on this demographic, such as technology.

Idea Author: Sam G

Number of Seconds 0

Number of Points 30

Number of Comments 1

Comment 1: Sam,

Thank you for providing input to the City of Orlando. I will forward your comment onto the bicycle study's consultant for their review.

Thanks again and please check back for updates.
| By Ian S

Idea Title: More education for the public

Idea Detail: Educated drivers make for safer biking. Well painted/marked bike lanes, strict enforcement (tell city vehicles like busses, police to stop driving in bike lanes), and awareness will go a long way.

Idea Author: Jessica M

Number of Seconds 0

Number of Points 29

Number of Comments 1

Comment 1: Jessica,

Thank you for providing input to the City of Orlando. The City of Orlando is working with Bike Walk Central Florida to educate drivers about bicycling.

Thanks again. | By Ian S

Idea Title: create a bike lane on Corrine Drive

Idea Detail: Corrine Drive to Merritt Park to Rose Isle to Loch Haven/Urban Trail/ 17/92 bike lanes

Idea Author: Jim H

Number of Seconds 0

Number of Points 29

Number of Comments 1

Comment 1: Jim,

Thank you for providing input to the City of Orlando. I will forward your comment onto the bicycle study's consultant for their review.

Thanks again and please check back for updates.
| By Ian S

Idea Title: Separated bike paths -re:NYC/Chicago/Portland/DC going N,E,S,W

Idea Detail: Major cities have dedicated lanes for biking infrastructure. We should install them going each direction and connecting to other regional trails and major employment/population centers.

Idea Author: Jonathan A

Number of Seconds 0

Number of Points 28

Number of Comments 4

Comment 1: Jonathan,

Thank you for providing input to the City of Orlando. The bicycle study will be analyzing the feasibility of adding protected bike lanes or cycle tracks to the proposed bike network, which will hopefully address your concerns.

Thanks again and please check back for updates.
| By Ian S

Comment 2: I fully agree with Richard and Eliza. I live close to Rosalind downtown and almost never see cyclists using the bike lane because, frankly, it's dangerous. Cars on Rosalind are traveling too fast for comfort and safety, and being in the door zone only aggravates the problem. Moving the curbside parking over to allow a bike lane to be placed between them and the curb would be much safer and provides an extra buffer for families in Lake Eola Park.

I love the armadillos as well. If I'm not mistaken, Eliza is on the DTO so hopefully she can give a voice to adding bike lane separators. A line of paint is hardly a safety measure. Painting the lane would also add more visibility, especially approaching intersections. From South St to

Church, perhaps they could designate a section of the large plaza/sidewalk area for cyclists, similar to Indianapolis's Cultural Trail in areas where the pedestrian and bike paths are joined, with a more traditional protected lane continuing from there. | By Sam G

Comment 3: Rosalind in front of Lake Eola is a candidate. Let the parked cars actually protect the cyclists instead of a bike lane in the door zone. | By Richard G

Comment 4: http://www.fastcoexist.com/3025799/these-recycled-plastic-dividers-can-create-a-bike-lane-in-a-second | By Eliza H

Idea Title: Map quiet streets link to existing bike paths build bike network

Idea Detail: A bike network strategy - map and find quiet streets that are safe and pleasant to ride residential 25 mph. Link mapped quiet street zones to each other with bike path or trail links to establish priorities in the network. Emphasis on getting to downtown, Lynx, SunRail. Link N and S downtown better under the tollway. Link College park under I-4 (Princeton Yale, E Winter Park drive) to Florida Hospital to Science Center to Audubon Park. This supports Orlando bike share too Other good link in my area Baldwin Park to Little Econ Trail. Lake Baldwin improved SR 50 crossing south, east of Orlando Executive Airport SE down to Andes Ave. Other nice bikeway North South street route to consider is Primrose & Peel Cady way trail to Lake Margaret. See Dr. Peter Furth Lecture on how street infrastructure impacts cyclists in link
http://vimeo.com/43059209

Idea Author: Robert F

Number of Seconds 0

Number of Points 28

Number of Comments 2

Comment 1: Robert,

Thank you for providing input to the City of Orlando. The bicycle study will be analyzing residential street connections to various destination centers within the City of Orlando, which will hopefully address your concerns.

Thanks again and please check back for further updates.
| By Ian S

Comment 2: Yes. I think finding the streets that the the secondary roads in neighborhoods and making them more bike friendly as part of a larger network would be great. I look at Winter Park Street as a great example. It's identified as a part of the bike trail but other than the sign it's not really bike friendly at all. Add a nice wide bike land and slow down vehicular traffic and move more bikes to Winter Park Street and more cars away from Winter Park to Princeton would be fantastic! | By Matt S

Idea Title: Connect Audubon Park to downtown

Idea Detail: Audubon/Colonialtown/Ivanhoe all have vibrant biking communities - a better connector to get these people downtown to jobs/entertainment would get a lot of use. The Urban Trail has started this but needs better markings in these neighborhoods to get people to the UT and needs a continuation where it ends at Orange Ave.

Idea Author: Jessica M

Number of Seconds 0

Number of Points 28

Number of Comments 2

Comment 1: I'll also add that Bumby needs restructuring to be safer for cyclists. It's nearly impossible to ride a bike on Bumby, between Corrine and 50, because of how much it curves and it's only 1 lane. I don't know if expanding it would encroach on people's properties though. | By Carlos V

Comment 2: Jessica,

Thank you for providing input to the City of Orlando. I will forward your comment onto the bicycle study's consultant for their review.

Thanks again and please check back for updates.
| By Ian S

Idea Title: Downtown east-west connector

Idea Detail: There definitely needs to be a downtown east-west connection to connect say Church Street Station all the way to the general area of the executive airport. It would connect to the already existing bike path on Crystal Lake Dr/Maguire Blvd allowing access to Fashion Square/Baldwin Park/Cady Way and Lake Underhill Park down south. This might lie along

South St/Anderson St as shown in the map plans.

Idea Author: Kenneth S

Number of Seconds 0

Number of Points 28

Number of Comments 3

Comment 1: Kenneth,

Thank you for providing input to the City of Orlando. The bicycle study will be analyzing a connection between the Orlando Urban Trail to the Lake Underhill Path, which will hopefully address your concerns. I will forward your comment onto the bicycle study's consultant for their review.

Thanks again and please check back for further updates.
| By Ian S

Comment 2: There is a start to a bike trail on the south side of the 408 turnpike from Lake Underhill Park to Mercado Rd just west of Semoran. This should be expanded across Orlando from East of Semoran to West of 441. This is the only place for a big E-W bike path project since it is a truly separate route not crossed by many driveways in front of houses, and not easily blocked by cars parked in its path, its has the least interruptions. | By Robert F

Comment 3: Are you referring specifically to a separate trail? If not there is already a couple ways to get from downtown to the airport fairly easily such as Livingston with the dedicated bike lanes. | By Jacques C

Idea Title: Cycling friendly bike lanes

Idea Detail: More and more local roads have had bike lanes added, and that's great. However, they are often littered with debris, trash, broken glass, small auto parts, nuts & bolts, and other cycling hazards. More frequent cleaning by street sweepers would really help.

Idea Author: p C

Number of Seconds 0

Number of Points 28

Number of Comments 2

Comment 1: Thank you for providing input to the City of Orlando. I will forward your comment onto the bicycle study's consultant for their review.

Thanks again and please check back for updates.
| By Ian S

Comment 2: And more bike lanes that connect to each other so you can actually take the bike lanes a good distance and be safe without having to go too far out of your way. | By Pam E

Idea Title: Car-free streets on Sundays

Idea Detail: I think Colombia's transportation system is a good example of the many sustainable forms of transportation. One of them specifically called "Ciclovia" is done on Sundays and it consists of closing major lanes to have a bicycle way or "Ciclovia". So my way of thinking is, just like major streets are closed for parades and races, I think the city should close Orange-Downtown and maybe some parts of 50 to give way to bicycles. This wouldn't have to be the whole day, but for a couple of hours.

Also, I know this is probably out of reach here in the US, but Colombia even has a car-free day!

Idea Author: Michelle S

Number of Seconds 0

Number of Points 27

Number of Comments 3

Comment 1: Michelle,

Thank you for providing input to the City of Orlando. I will forward your comment onto the bicycle study's consultant for their review.

Thanks again and please check back for updates.
| By Ian S

Comment 2: Thank you if you have any questions or need clarification, please let me know :) | By Michelle S

Comment 3: This is a concept that Orlando needs to bring to get people downtown. Los Angeles California, the nations 2nd biggest city and they close down Wilshire Blvd a very major road downtown for cicLAvia. I would like to see parts of Orange downtown and around Lake Eola, then next year try a some variations like LA for a CyclOrlando. | By Robert F

Idea Title: Starting @ Lake Eola headed east. South of 50.

Idea Detail: There are bike trails north of Colonial, but what about south? Say, a trail starting from Lake Eola headed due east. It can link Lake Eola to Lake Underhill and even farther east without having to cross over very busy East Colonial.

Idea Author: Brenda H

Number of Seconds 0

Number of Points 25

Number of Comments 3

Comment 1: Brenda,

Thank you for providing input to the City of Orlando. I will forward your comment onto the bicycle study's consultant for their review.

Thanks again.
| By Ian S

Comment 2: Livingston has bike lanes extending to Executive Airport. East of Fern Creek, it would be nice to have the lanes painted and perhaps add bollards or separators like Zicla's Armadillos. Dedicated lanes from Livingston south below the 408 could be built along Bumby, Primrose, or Maguire/Crystal Lake (or all 3!). Also, as Andrew said, Curry Ford could definitely benefit from dedicated bike lanes. | By Sam G

Comment 3: I think this is a wonderful idea. Curry ford is wide enough to accommodate a bike lane | By Andrew C

Idea Title: Adult Playground Downtown

Idea Detail: This is certainly off the bike trail topic, but I figured this would be a good place to post since so many motivated people discuss their thoughts here. I just wanted to take a quick minute to propose building an outdoor, adult fitness playground. New York City recently completed one near Yankee Stadium & it has taken off. It is a mix of all sorts of metal structures for performing calisthenics, such as pull up bars, dip bars, climbing ropes, monkey bars, balance beams, and other NO MAINTENANCE structures that help people stay active and in shape. As far as location goes, I'm not sure who if anyone currently owns the land at the corner of Robinson and Livingston, but that could make a great location for such a project. I would love to hear people's feedback on this.

Here is a link to the one in NYC:
http://www.nytimes.com/2012/07/01/nyregion/new-york-introduces-its-first-adult-playground.html?pagewanted=all&_r=0

Idea Author: John M

Number of Seconds 0

Number of Points 24

Number of Comments 3

Comment 1: An adult playground near the children's playground at Lake Eola would be great! | By William J

Comment 2: There are a few small version of this around. Like by Lake Ivanhoe and Lake Underhill; also at Maguire and Robinson. All of them connect to bike paths :-) | By Eliza H

> Comment 3: Yeah I know, there's just not a lot of exercise stations in any one particular location. I do like however that the ones already in place connect to bike paths. I just think we need a greater concentration in one area to shed more focus. | By John M

Idea Title: Connect College Park With Downtown

Idea Detail: I would like to see a bike/pedestrian overpass over 50/Colonial Dr. connecting College Park with downtown. Crossing 50/Colonial Dr. is extremely dangerous. An overpass for bikes/pedestrian would allow College Park residents to bike or walk downtown for work or community events without having to cross 50. One possible location could be from Edgewater Dr. to Lake Dot Cir.

Idea Author: Chris A

Number of Seconds 0

Number of Points 24

Number of Comments 4

Comment 1: Chris,

Thank you for providing input to the City of Orlando. I will forward your comment onto the bicycle study's consultant for their review.

Thanks again and please check back for updates.
| By Ian S

Comment 2: An overpass is being planned alongside Orange Ave, stretching from Park Lake St to Concord St. I think a great way to connect College Park to Downtown would be to create a protected bike lane from Edgewater Dr and then along Lakeview St. The entire interchange around I-4 and Ivanhoe will be rebuilt during Trans4mation so perhaps consideration could be given to a protected bicycling and pedestrian pathway during that construction. | By Sam G

Comment 3: I think all the roads around College Park are pretty intense. I've biked there a ton to visit Downtown Credo from Colonialtown and I had to take Virginia (which doesn't have room for bikes and could really use a bike lane) and then the backroads through the pink apartments and the housing area. Princeton and Orange is so unsafe to bike around that intersection, especially getting close to I-4, everyone is more concerned with getting where they need to be than looking out for a bicyclist. | By Pam E

Comment 4: I think there are plans to extend Edgewater Dr south, accross Colonial, into the Creative Village. Would be great to do this as part of that project. | By Adrian L

Idea Title: Conway Road south of Curry Ford going toward airport.

Idea Detail: Design route so trail connects to Airport Lakes Park. From there go south toward main post office area. This area has lots of green space affording nice views and creating an ideal biking experience.

Idea Author: Tom R

Number of Seconds 0

Number of Points 23

Number of Comments 2

Comment 1: Tom,

Thank you for providing input to the City of Orlando. The bicycle study will be analyzing the southeast portion of the City of Orlando, which will hopefully address your concerns.

Thanks again. | By Ian S

Comment 2: I agree. The area is in need, too. | By Sandra K

Idea Title: Florida Hospital SunRail Station connection through Rollins

Idea Detail: I would like to see some serious bike infrastructure work applied to Rollins road to connect Florida Hospital SunRail to E Winter Park Street (under I-4) to Lake Shore Drive across 17-92 which crosses Orlando urban trail too. Seriously it looks like it would not be too difficult to have a dedicated cycleway and improved pedestrian paths on Rollins to connect College Park, Audubon Park and Winter Park as well as north Orlando through the Orlando urban trail

Idea Author: Robert F

Number of Seconds 0

Number of Points 23

Number of Comments 4

Comment 1: Robert,

Thank you for providing input to the City of Orlando. The bicycle study will be analyzing a Winter Park Road connection to College Park, which will hopefully address your concerns.

Thanks again and please check back for further updates.
| By Ian S

Comment 2: This would be great for people visiting the museums as well | By Sam G

Comment 3: The west bound part into College Park would be a big help to make up for the fact that there is no "Northwest Trail Map" | By Adrian L

Comment 4: I think tis is a great idea and will help to create a network around Loch Haven park, especially for pedestrians. | By Scott S

Idea Title: Connect downtown to Cady Way better.

Idea Detail: Riding along Colonial is terrible. Skinny walks, loud traffic, lots of obstacles and lots of crossings.

Possibly link a route from downtown from summerlin, to park lake, across mills, through colonial town, to corrine or through colonial town all the way to fashion square and cady way

Idea Author: Jackie F

Number of Seconds 0

Number of Points 23

Number of Comments 2

Comment 1: Jackie,

Thank you for providing input to the City of Orlando. I will forward your comment onto the bicycle study's consultant for their review.

Thanks again.
| By Ian S

Comment 2: I like the premise, but I think a trail connecting Cady Way to the Livingston trail, perhaps by leveraging the Fashion Square Traffic light to cross Colonial, or the light at Colonial Plaza Mall would be the easiest way to connect Cady Way to downtown. If it were the Fashion Square light the city would be smart to make it part of the construction plans for the new hotel. And then they could connect to the Lymmo dedicated bike lanes (see my idea :)) | By Adrian L

Idea Title: Build it into the mix...

Idea Detail: "Walking and bicycling are also cost-savers for cities. Integrating these modes into street designs comes at a small cost, with huge returns in terms of reduced vehicular congestion, lower emissions, less wear and tear of roads, stronger local economies and more

vibrant neighborhoods."

- Before We Build, We Should Review How a Project Will Affect Safety
by Jim Aloisi and Tanzeel Merchant

http://usa.streetsblog.org/2014/02/11/before-we-build-we-should-review-how-a-project-will-affect-safety/

Idea Author: Ian S

Number of Seconds 0

Number of Points 22

Number of Comments 2

Comment 1: Ian,

Thank you for providing this quote and web link to the bicycle study conversation. | By Ian S

Comment 2: What is every road that was being constructed OR re-paved (for example, the current project on Summerlin Ave) was required to install a bike lane as part of the cost and construction, especially if it were near existing bike areas? I think that would be rad. | By Pam E

Idea Title: Bike lane on southbound orange ave from lake ivanhoe

Idea Detail: No connection from downtown trail heading south back into downtown. Really great from downtown heading n to the trail, really awkward getting home from trail heading south

Idea Author: Jackie F

Number of Seconds 0

Number of Points 22

Number of Comments 2

Comment 1: Jackie,

Thank you for providing input to the City of Orlando. The bicycle study will be analyzing the Orange Avenue corridor, which will hopefully address your concerns.

Thanks again and please check back for further updates.
| By Ian S

Comment 2: I think it is on the Northeast map already as a future plan | By Adrian L

Idea Title: More streets like Livingston (brick street/concrete bike lane)

Idea Detail: I enjoy riding along Livingston from Maguire/Crystal Lake downtown, the combination of the brick street causing cars to slow down (or maybe go over to Robinson) and the concrete bike lane for a smooth bike ride is an awesome combination in my opinion. It preserves the look and feel of the quiet residential streets that define a large part of this section of Orlando while allowing a comfortable and safe ride for cyclists.

Idea Author: Jacques C

Number of Seconds 0

Number of Points 21

Number of Comments 4

Comment 1: Jacques,

Thank you for providing input to the City of Orlando. I will forward your comment onto the bicycle study's consultant for their review.

Thanks again.
| By Ian S

Comment 2: Thats one of the WORST streets to bike on. I absolutely never go that way and actually go out of my way to avoid it. It's not safe, the paving is worse than a sidewalk and very hard to ride on, all the different bumps are uneven hard to navigate. Also, there are always obstacles - like people leaving their yard waste in the lane or trash cans on pickup day. And the bricks there are in such bad shape as well. So there isn't any space to ride safely. | By Pam E

Comment 3: Thanks! I was a homeowner on livingston when the Lake Eola Heights Neighborhood Association went to the city to request restoring it to a brick street. It was a little

controversial, in part for the reasons Michael mentions, but the rebricking and narrowing by adding concrete bike lanes was to calm traffic. The homes on livingston have an assessment on them to pay for it - so thank those homeowners - they're giving you a good ride. :) | By Adrian L

Comment 4: Except that I see a lot of cars using the bike lane to avoid the bricks, also the bricks leave the road VERY bumpy and wreck suspension. | By Michael S

Idea Title: Better connections to Valencia West and Universal Studios

Idea Detail: Few workers commute on bikes because it is too dangerous and difficult. LB McLeod is missing stretches of sidewalks, forcing bikes into traffic lanes.

Idea Author: Andrew R

Number of Seconds 0

Number of Points 21

Number of Comments 2

Comment 1: Andrew,

Thank you for providing input to the City of Orlando. The bicycle study is analyzing the areas around the Valencia West campus and Universal Studios. The City of Orlando currently has a grant application in to connect the Shingle Creek Trail at Eagle Nest Park to the Valencia West Campus.

Thanks again for sharing your concerns. | By Ian S

Comment 2: I am not too familiar with this area, but this probably makes sense.

The broader discussion is that City Hall has an urban bias and spends a disproportionate amount of attention and resources downtown. There are huge swaths of this city that are dangerous to bikes and peds, are ugly, but could also provide a tremendous opportunity of creating "place", economic opportunity, and enhanced property value....which would lead to greater tax revenue.

What happens now, is that the non-downtown parts of Orlando continue to get the suburban touch: cheap, ugly and dangerous. No trees, poor design control, overhead wires, huge streets moving cars and trucks at high speeds...but for what purpose? This is not the way to create a real city, a livable city, a Beautiful City. | By Jonathan A

Idea Title: Bike/pedestrian underpass

Idea Detail: I remember at least one of these being in Gainesville. It is a short tunnel under a busy road allowing passage of bikes and pedestrians to the other side of the road. It is better than an overpass since there are no stairs to climb and the bikes can ride straight through it without stopping. I'm sure it is expensive but having at least one going under a busy street like Colonial would be amazing.

Idea Author: Kenneth S

Number of Seconds 0

Number of Points 21

Number of Comments 7

Comment 1: Kenneth,

Thank you for providing input to the City of Orlando. I will forward your comment onto the bicycle study's consultant for their review.

Thanks again and please check back for further updates. | By Ian S

Comment 2: I do think there is some value in creating a well-designed at-grade intersections. Our roadways are not just for cars but for all users. Visibility and complete-streets remind auto drivers that they need to share the road with everyone. For more major intersections with more substantial bike lane crossings, adding a bicycle stoplight to the signal phase could be a good idea. Bicyclists are more likely to stop at designated bike lane traffic signals and dedicated signaling increases safety for everyone. | By Sam G

Comment 3: I read about the use of mini tunneling machines used on the prairie path trail in the Chicago suburbs to create new bicycle/ped trails to a local college under a very active 3 track railroad, with lots of freight and commuter train action (I know I used to live there). We could use some to create new paths under the toll ways and expressways especially where the road bed is raised up. Bridges are always good opportunities, The SR-50 Colonial drive bridge over the Little Econlockhatchee would be an example of a good opportunity since the road is raised up, it would make a link from Valencia College east to the little Econ. Any tunnel need to be wide and high and straight enough to see though with excellent and efficient LED lighting, and good drainage. I like the tunnels on the Seminole-Wekiva trail crossing SR434 and lake Mary Blvd but the lighting is 40 years behind the times, LED lighting would make them much better. | By Robert F

Comment 4: I have had good experience with very wide underpasses such as some of those on the Little Econ Trail but I see most underpasses (particularly those more tunnel like) as being a deterrent to riding there, I would prefer a well designed at-grade crossing. | By Jacques C

Comment 5: I would feel very unsafe using an underpass unless it was very short. There's also the issue of flooding and ickiness since our water table is really high. | By Eliza H

Comment 6: Great video. Would be great to see protected intersections. I don't see clearly that it would get used more though at a given intersection. Also the ease of implementation and cost is somewhat negated by the cost of the protected bike lanes which would pretty much be required too. Still, I would definitely love to see all these done perhaps with one strategically placed tunnel as well. | By Kenneth S

Comment 7: Proper intersection design would be easier, cheaper, and would probably get used more.

For example: http://www.protectedintersection.com/ | By Ian S

Idea Title: Lymmo & Bike Lane Sharing

Idea Detail: Bikes could be allowed to share the dedicated Lymmo lanes, providing bikes a safe spacious route through downtown areas, only sharing the road with professional Lymmo drivers while giving dual purpose to the expanded Lymmo routes, connecting Sunrail to bike lanes and downtown communities to Sunrail.

Idea Author: Adrian L

Number of Seconds 0

Number of Points 20

Number of Comments 4

Comment 1: Adrian,

Thank you for providing input to the City of Orlando. I will forward your comment onto the bicycle study's consultant for their review.

Thanks again and please check back for updates.

| By Ian S

Comment 2: http://www.peopleforbikes.org/blog/entry/how-montreal-built-a-bike-lane-by-debunking-fears-of-autoparkolypse | By Ian S

Comment 3: Hi Adrian,
I agree with you.. I like this idea since there is already a lane for Lymmo, I think it would be good if bikes could use it as well, especially now that the city is expanding the Lymmo routes. | By Michelle S

> Comment 4: Exactly! As the new routes come into play, the City can claim having an even greater impact in getting cars off the road, as Bikes are able to use the lanes as well. Plus, if you were to use a bus or to ride into the city and put your bike on the front, or brought your bike on Sunrail (can you do that?) you would arrive downtown at central station at the center of a network of Lymmo "trails" | By Adrian L

Idea Title: Corrine/Virgina bike lanes key to great E-W bike route

Idea Detail: Just think if Corrine and Virginia (maybe Nebraska too is given a complete street treatment with bike lane all the way from Bennett/Baldwin Park to crossing 17-92. Then connections made to Orlando Science center, Orlando Urban Trail and Florida Hospital This gets you to SunRail and beyond to College park. North through Rollins to Winter park. If little Econ trail was extended back to Cady Way trail with a bridge over Semoran then there is a awesome long distance urban E-W bike route corridor from University of Central Florida to the planned Florida Hospital Health village and SunRail to College Park and perhaps even farther West. "Make no little plans. They have no magic to stir the (blood of the people) and probably will not themselves be realized" paraphrased from Daniel Burnham famous urban planner. His plans help make San Francisco and Chicago, its lakefront todays great people places, also he was a major player in Washington DC's national mall.

Idea Author: Robert F

Number of Seconds 0

Number of Points 19

Number of Comments 2

Comment 1: Nebraska seems a great fit for this. I live just off of it that street, and in spite of speed bumps, it's too busy at rush hour for neighbors to turn on to. When the apartments at

Mills Park open, it's going to be that much worse. Mills Park is obligated to do traffic mitigation if traffic rises above a certain point, and it certainly seems that we should get a bike lane out of that deal — one which connects to OUT and a newly calmed Corrine. | By David K G

Comment 2: A cycle track along here would go a long way. Or possibly a similar thing to West Orange Trail through downtown Winter Garden. The combination would add great cycling infrastructure connectivity (with Leu Gardens, Audubon Park shops and Baldwin Park all along the route) and set the ball rolling for beautification of Audubon Park in the process.
| By Todd M

Idea Title: Connect OUT to Alden Road

Idea Detail: Alden Road provides a nice alternate route to Orange Ave but to get to it from the south you have to get onto Orange. It would be really helpful if there was more bike connectivity between Alden and OUT. The Lake Highland Prep parking lot represents a really frustrating network gap here. It would be great if there was reasonable bike connection through or around it that stayed open at all hours. It's really frustrating to either have to get out onto Orange which is a pretty busy road or go all the way round the ball fields to access Alden. Alden also provides a connection all the way up to Florida Hospital, Loch Haven Park, Sunrail, and almost to Winter Park on back roads. The fact that Alden is partly brick does somewhat detract from it's value as a bike route. Perhaps it could have an asphalt lane down the middle?

Idea Author: Eliza H

Number of Seconds 0

Number of Points 18

Number of Comments 2

Comment 1: Eliza,

Thank you for providing input to the City of Orlando. The bicycle study will be analyzing Lake Formosa for trail feasibility, which will hopefully address your concerns. I will forward your comment onto the bicycle study's consultant for their review.

Thanks again.
| By Ian S

Comment 2: I usually cut through the attorney's office parking lot rather than get on Orange. If FDOT has sufficient RW along SunRail that would be a benneficial connection. | By Gordon S

Idea Title: Church Street Trail to Connect DT, SunRail, Entertainment Venues

Idea Detail: Create a wide, top-notch trail to connect the Central Business District and Church Street Station to Amway Center, MLS Stadium and Citrus Bowl. This would benefit the entertainment venues by creating better pedestrian and bicycle infrastructure connecting them to the CBD and SunRail, help increase traffic to support businesses when there are no active events, and provide a vital link between the historic Parramore neighborhood and the CBD.

Idea Author: Sam G

Number of Seconds 0

Number of Points 18

Number of Comments 1

Comment 1: Sam,

Thank you for providing input to the City of Orlando. I will forward your comment onto the bicycle study's consultant for their review.

Thanks again and please check back for updates.
| By Ian S

Idea Title: Something on Colonial West of Downtown

Idea Detail: There is too much pedestrian traffic on the sidewalks and you can't ride safely in the street. Washington/Old Winter Garden Road starts and stops too often and the street turns to the south. There is nothing that can take you from downtown west to Kirkman truly safely.

Idea Author: Tammi M

Number of Seconds 0

Number of Points 17

Number of Comments 2

Comment 1: Tammi,

Thank you for providing input to the City of Orlando. The bicycle study will be analyzing a connection between the Orlando Urban Trail to the Shingle Creek Trail, which will hopefully address your concerns. I will forward your comment onto the bicycle study's consultant for their review.

Thanks again and please check back for further updates.
| By Ian S

Comment 2: I would like to see most areas/paths built so that a user does not feel the need to use a sidewalk in place of a well designed and implemented bike lane or path. As mentioned it can be very crowded and unsafe for cars and cyclists with all of the curb cuts. | By Jacques C

Idea Title: RE-PAVE the ENTIRE Cady Way Trail !!!

Idea Detail: this trail, nearly 20 years old has NEVER been re-paved while portions of the West Orange Trail (younger origin) have been re-surfaced at least twice. BEFORE INVESTING IN NEW TRAILS, fix what is currently in use and in a TERRIBLE state of disrepair. there is a new development under construction east of the Herndon western most entrance. apparently impact fees have allowed resurfacing of those surrounding neighborhood roads. what about the Cady Way trail ?

Idea Author: Dan T

Number of Seconds 0

Number of Points 17

Number of Comments 4

Comment 1: I run and/or bike cady way almost every day and I don't see it needed repaving. Corrine on the other hand is long overdue! | By Carlos V

Comment 2: Dan,

Thank you for providing input to the City of Orlando. I will forward your comment onto the bicycle study's consultant for their review.

Thanks again and please check back for updates.
| By Ian S

Comment 3: Certainly don't know what Cady Way Trail you are referring to Pam E3. It's not

about a pretty thing, dear one. it's about a functional and liability / lawsuit thing. The tree roots and potholes are a court case just waiting to happen. both the City of Winter Park and the Seminole County portions of CWT have begun very minimal repair work. What's the problem with City of Orlando pitching in their share? The impact fees assessed to the developers of Baldwin Cove (mentioned above) would more than cover a much needed / required re-surface (this won't take away from monies budgeted for new paths).

And b.t.w. bike lanes around the city? on already crowded, heavily trafficked, narrow roads abutting business-front sidewalks? wonder where you suggest these bike lanes be built? The interesting dynamic that you are probably unaware of is the crazy politics of simply keeping it maintained, mowed and debris-free with 3 municipalities involved....again liability being the concern! | By Dan T

Comment 4: There are SO MANY more important ways to spend money to make our city more bike friendly. Maybe Cady Way is not the prettiest trail, but it's absolutely fine. What we really need is bike lanes around the city, even more than new trails and even more than re-paving old ones. | By Pam E

Idea Title: Create More Visible "Sharrows" When Bike Lanes Are Not An Option

Idea Detail: When dedicated bike lanes are not an option and bicycles need to share a lane with vehicles, make the sharrow more visible. Painting a sharrow path down the center of the lane to tell vehicles that bicycles have the right to use that lane. Too often, cars will try to squeeze past cyclists which can be dangerous and deadly. More visible sharrows keep the cyclists in better sight lines and vehicles are more likely to yield right-of-way or pass more safely.

Idea Author: Sam G

Number of Seconds 0

Number of Points 16

Number of Comments 2

Comment 1: Sam,

Thank you for providing input to the City of Orlando. I will forward your comment onto the bicycle study's consultant for their review.

Thanks again and please check back for updates.
| By Ian S

Comment 2: This is a great low cost option to get us started on improved bike safety while we wait for future great projects. Painting lanes would also probably help clear up some of the misconceptions drivers have about where bikes belong. Many drivers are under the misconception that bikes should be on the sidewalk. | By Jessica M

Idea Title: Daylight connections to Winter Park

Idea Detail: The Mead Garden connection to Winter Park is nice if a little indirect however the gate is sometimes closed at night and even if it were open I wouldn't feel safe biking through there at night. The main gap is between Nottingham St and Grover Ave. There's also a potential missing link between Lake Virginia and Lake Berry.

Idea Author: Eliza H

Number of Seconds 0

Number of Points 14

Number of Comments 6

Comment 1: Eliza,

Thank you for providing input to the City of Orlando. The bicycle study will be analyzing connections to the City of Winter Park, which will hopefully address your concerns.

Thanks again and please check back for updates.
| By Ian S

Comment 2: I didn't even know about a Mead Park creek side trail. Does it take you from Nottingham to Pennsylvania? About a direct link on Google maps you can look closely where Denning road ends, the adjacent two houses have a wider spacing than the other houses. I wonder if there is an easement between the two houses. So far they planted trees in the way so I think they never had a good deal for them for a link presented to them because I have seen other sidewalk short cut paths with tighter fits between bigger houses in nicer neighborhoods. I would be happy if I had to agree to walk my bike through to have a side walk path between fences to cut through to Denning. | By Robert F

Comment 3: The creekside trail is not an officially sanctioned trail at all, but it is easily rideable and the most direct route between downtown Winter Park and the

Loch Haven/Ivanhoe/Mills60 area.

You are correct about there being an old right of way between the houses on Middlesex Road and Lakeshore Drive. It once had the Dinky line railroad running through that area long before the houses were built. It carried both cypress logs to the mill at Mills Park and passengers from Rollins to downtown Orlando. Most of the right of way has unfortunately been abandoned and deeded to the adjacent home owners. Remants of old railroad bridges can still be seen in places along the former right of way.

The creekside trail starts near the entrance to Mead Gardens near the intersection of Middlesex and Notingham, follows Howel Creek through the garden, and comes out at Pennsylvania Avenue in Winter Park. | By Gordon S

Comment 4: The creekside trail is not an officially sanctioned trail at all, but it is easily rideable and the most direct route between downtown Winter Park and the Loch Haven/Ivanhoe/Mills60 area. The creekside trail starts near the entrance to Mead Gardens near the intersection of Middlesex Road and Notingham Street, follows Howel Creek through the garden, and comes out at Pennsylvania Avenue in Winter Park.

There was an old right of way between the houses on Middlesex Road and Lakeshore Drive. It once had the Dinky line railroad running through that area long before the houses were built. It carried both cypress logs to the mill at Mills Park and passengers from Rollins to downtown Orlando. Most of the right of way has unfortunately been abandoned and deeded to the adjacent home owners. Remnants of old railroad bridges can still be seen in places along the former right of way. | By Gordon S

Comment 5: I'm actually talking about how to get to Denning. But that would be good too. Basically most of the routes to winter park are unnecessarily indirect. There is less than 200 feet separating Denning from Nottingham and yet you have to go 2,500 feet through mead garden to get there. | By Eliza H

Comment 6: I assume you are talking about the creekside trail, Eliza, and not the official bike trail through Mead. The creekside trail is by far the best route to downtown WP from the Dinky Line Trail. | By Gordon S

Idea Title: Something on Lee Road.

Idea Detail: There are no trails connecting 17/92 to OBT.

Idea Author: Tammi M

Number of Seconds 0

Number of Points 14

Number of Comments 1

Comment 1: Tammi,

Thank you for providing input to the City of Orlando. I will forward your comment onto the bicycle study's consultant for their review.

Thanks again and please check back for further updates.
| By Ian S

Idea Title: Connect Engelwood Park/Azalea Park to existing trails

Idea Detail: There are several trails already existing - but the Semoran Corridor/Engelwood Park/Azalea Park area could be included as a connecting piece to those already existing trails.

Idea Author: Debra A

Number of Seconds 0

Number of Points 13

Number of Comments 1

Comment 1: Debra,

Thank you for providing input to the City of Orlando. The bicycle study will be analyzing residential street connections to the various parks around the Semoran Boulevard corridor, which will hopefully address your concerns.

Thanks again and please check back for further updates.
| By Ian S

Idea Title: How to add bike lanes without people freaking out about parking

Idea Detail: Brilliant!

Idea Author: Ian S

Number of Seconds 0

Number of Points 12

Number of Comments 2

Comment 1: Ian,

Thank you for providing input to the City of Orlando. I will forward your comment onto the bicycle study's consultant for their review.

Thanks again.
| By Ian S

Comment 2: As you see how in Montreal a 2 way bike lane between the side walk and they create an concert island I would modify it with adding a 2-3 foot high concert barrier/wall to separate the bike traffic from the automobiles. Might also plant trees in this island using eco-cret - a porous concert to allow water to flow into the root system without the need of large amount of exposed soil.

e.g. Livingston st. the city could move the current bike lanes on both side of the street and use that width and put either side of the street.
| By eugene S

Idea Title: Separate motor traffic from bike traffic

Idea Detail: Streets which currently have bike lanes. Take the total width of the bike lanes both directions, combine them into a separate area from the cars. Using a narrow concert island/wall.

E.g Livingston St. has bike lane each direction approximately 4 feet x 2 = 8 feet. So lets say use 6 feet for by bi-directional lanes plus two feet for the concert barrier.

This physically separate the motor vehicles from bikes.

This method can be used on any road if it has the space.

Idea Author: eugene S

Number of Seconds 0

Number of Points 10

Number of Comments 3

Comment 1: Eugene,

Thank you for providing input to the City of Orlando. I will forward your comment onto the bicycle study's consultant for their review.

Thanks again.
| By Ian S

Comment 2: Problems with this idea include road drainage, frequent driveways and most of all the American car oriented intersection. The best thing we could do, something that makes our bike lanes not so fun is to consider an intersection design that could accommodate everyone, people bicycles and yes cars. Here is a proposal based on Dutch city intersection design (web link text)
http://www.wired.com/2014/06/a-new-bike-lane-design-that-could-make-biking-more-popular-and-save-lives/
Holland has over 40 years of experience working on a true multimodal city intersection. Ten years ago bike lanes on streets were against city and state transportation planning code. The years from now I hope we see an American version of the Dutch intersection in our cities and towns. True human sized city street design. As for now take Mighk Wilson's bicycle savvy class so we can fight on for better design road on humans and live to tell the tale, find commute Orlando online or one facebook. | By Robert F

Comment 3: The National Association of City Transportation Officials recommends a minimum of 8 feet and ideally 12 feet for a two-way cycle track, with an additional 3-foot buffer separating the track from on-street parking to eliminate door zone collisions. For a street like Livingston, a two-way track may not be practical. For a street like Rosalind or along Lakeview St. between Ivanhoe and Edgewater it would make more sense. Two-way cycle tracks would be great for our more major roads like Semoran, Orange, OBT, etc. | By Sam G

Idea Title: Create Protected Lane on Rosalind and Other Higher-Speed Roads

Idea Detail: Currently Rosalind only offers a painted line separating cyclists from fast moving cars and locates them in a dangerous, potentially-deadly door zone. Curbside parking should be moved over to allow a separated bike lane to operate out of the door zone and adjacent to the sidewalk. Not only does this make the bike lane safer, but also allows an additional buffer

for the families along Rosalind in Lake Eola Park.

Idea Author: Sam G

Number of Seconds 0

Number of Points 10

Number of Comments 2

Comment 1: Sam,

Thank you for providing input to the City of Orlando. I will forward your comment onto the bicycle study's consultant for their review.

Thanks again and please check back for updates.
| By Ian S

Comment 2: Nice illustration, we must have a door zone car cars along with a bike trail, and putting the bike trail on the other side of the parked cars is best provided that the intersection design is done correctly, along with traffic signal. Most bike lanes really just dump you out in the intersection approach, and the safest thing to do is to get in the middle and to the left of the lane where cars can really see you and you cannot be curbed by a car on a right turn (like a motorcycle). This is what a "cycle box" attempts to do. This is not easy for beginning cyclists, you have to teach them how to deal with this; we need to redesign intersections to have working bike lanes on busy city roads like Rosalind. | By Robert F

Idea Title: Add a Northwest Trail Map during "Trans4mation"

Idea Detail: The obvious trails that are missing are the ones that connect NW Orlando to the rest of it. Though it would not be the prettiest ride, but, taking the opportunity of the "Trans4mation" to add bike trails along the quiet side of the future sound walls along I-4 opens up a world of connection possibilities.

It could connect riders to
- Health Village
- The Urban Trail via a Rollins trail build out.
- College Park and Edgewater lanes via Par or Winter Park
- Ivanhoe Village via New Hampshire
- The (tbd) Ivanhoe Ped bridge with some creative engineering

If it were on the east side, it could connect along Dade Ave to Par and then follow the side of I4

north, On the west side, riders would go past Dubsdread, and Mathews Park and Ivanhoe Park.

And new routes could be explored further North and West if a trail artery like this were built during the I4 project.

Idea Author: Adrian L

Number of Seconds 0

Number of Points 10

Number of Comments 1

Comment 1: Adrian,

Thank you for providing input to the City of Orlando. I will forward your comment onto the bicycle study's consultant for their review.

Thanks again and please check back for further updates.
| By Ian S

Idea Title: downtown connections

Idea Detail: like other users said, connecting downtown with other areas

Idea Author: jared K

Number of Seconds 0

Number of Points 6

Number of Comments 1

Comment 1: Jared,

Thank you for providing input to the City of Orlando. I will forward your comment onto the bicycle study's consultant for their review.

Thanks again and please check back for updates.
| By Ian S

Idea Title: Make all College Park residential streets parking ONLY on 1 side

Idea Detail: College Park residential streets are very narrow. Some streets only allow parking on one side of the street, others allow both sides. When cars park directly across from each other it makes it difficult or impossible for emergency vehicles to pass and city services like waste collection to pass. It's also dangerous with children playing outside- you can't always see them and backing out of a driveway is impossible. Please consider making this change to all College Park residential streets and making them ALL parking one side only. Thank you.

Idea Author: donna S

Number of Seconds 0

Number of Points 4

Number of Comments 0

Idea Title: Cycle Tracks On or Adjacent to Our Major Roads

Idea Detail: Dedicated bike lanes are great for encouraging cycling, increasing safety for users, and allowing people of various skill levels to have a more comfortable and relaxing ride. When possible, they would be a great addition to roads like Michigan or Curry Ford. When the available right-of-way doesn't provide enough space for a dedicated cycle track (perhaps parts of OBT or Semoran), using an adjacent side street to build a protected bike lane could still provide the benefits without removing roads lanes or requiring additional property acquisition.

High-quality dedicated bike lanes on a side street may also be helpful in creating a future transit mall. As density and transit usage increases and urban design improves, businesses will look to cater to alt transit and less to auto-only streets. These former side/back streets could become future candidates for light rail or BRT.

Idea Author: Sam G

Number of Seconds 0

Number of Points 3

Number of Comments 0

Idea Title: How the Dutch got their cycling infrastructure...

Idea Detail: http://bicycledutch.wordpress.com/2011/10/20/how-the-dutch-got-their-cycling-infrastructure/

Idea Author: Ashley P

Number of Seconds 0

Number of Points 3

Number of Comments 2

Comment 1: Ashley,

Thank you for providing input to the City of Orlando. I will forward your comment onto the bicycle study's consultant for their review.

Thanks again and please check back for updates.
| By Ian S

Comment 2: More people need to see this since it was the Dutch people that forced their government transportation department to rebuild their cities over time with better bicycle and pedestrian infrastructure. Dutch bicycle infrastructure is the result of the will of the Dutch people themselves, not the government something this American admires very much. | By Robert F

Idea Title: Connecting SunRail Stations, venues, and points of interest

Idea Detail: Trails need to connect people with where they want to go instead of just being a trail to nowhere. Trails will be appreciated and used no matter where they are located, but the true value in the trail is to get people to the places they need to go.

Idea Author: Jessica K

Number of Seconds 0

Number of Comments 0

Topic Name: What is Your Favorite Bike Trail?

Idea Title: Make Corrine Road Viable for bikes not tanks

Idea Detail: Tanks once used Corrine is it vying to be a model complete street

Idea Author: bruce S

Number of Seconds 0

Number of Points 77

Number of Comments 3

Comment 1: Pedestrian access should be a priority in this corridor. There are large gaps in the available sidewalks and those that are in place are dangerous at points. | By Scott S

Comment 2: Adding bike lanes to Corrine Dr should be a priority as the City thinks about resurfacing this road. Protected bikes lanes or green lanes would be so beneficial to the community as well as to the businesses on this distrcit! | By Julian V

Comment 3: Thank you for participating in this bicycle study and providing your input to the City of Orlando. Your comments are valuable and will be provided to the study's consultant for their review. The first public meeting to display the initial findings of the study will be on Tuesday, February 18, 2014, at 5:30 p.m. at the Loch Haven Center, 610 North Lake Formosa Drive. If you would like to contact me directly please send me an email at ian.sikonia@cityoforlando.net. | By Ian S

Idea Title: Interconnection: Turning our bike paths into a bike network.

Idea Detail: Lets invite more people to ride bicycles, they want low stress routes and many neighborhoods have them in low stress streets 25 mph or less with speed humps. Bike education is vital for safe cycling but it will not make the majority of potential bicycle riders subject themselves to a high stress road (like colonial) with perceived and real danger The trick is to link them together so we can ride from one low stress neighbor with a low stress connection with a low stress approach and intersection. Our bike paths need more and better connections to cutoff neighborhoods, and although Orlando has a lot of cul-de-sac neighborhoods and lakes we have other opportunities in power line right of ways and drainage canals for bike/ped connections. When it comes to I-4, tollways and major arterials major intersections will never be low stress unless a bike overpass or underpass is built. Look at minor roads that cross (primrose & colonial). Dr Peter Furth lecture

https://vimeo.com/43059209

Idea Author: Robert F

Number of Seconds 0

Number of Points 62

Number of Comments 2

Comment 1: I agree, riding down SR 50 was a once and never again ride. | By Michael S

Comment 2: Thank you for participating in this bicycle study and providing your input to the City of Orlando. Your comments are valuable and will be provided to the study's consultant for their review. The first public meeting to display the initial findings of the study will be on Tuesday, February 18, 2014, at 5:30 p.m. at the Loch Haven Center, 610 North Lake Formosa Drive. If you would like to contact me directly please send me an email at ian.sikonia@cityoforlando.net.

http://www.cityoforlando.net/transportation/TransportationPlanningDiv/BikesPeds/pdf/2-18-14BikeRouteStudyPublicMeetingFlyer.pdf | By Ian S

Idea Title: Connect trails w/ bike-friendly roads to facilitate commuting!

Idea Detail: I love the West Orange trail best of all for its length and rolling scenery, but I would use all the trails more if there were useful routes I could follow that connect the trails to smaller roads that either have bike lanes or shoulders, to facilitate using the trails to GET somewhere too! (Rather than just pleasure riding on weekends). For example, NYC has established a great network (and route planning map) of trails, roads with dedicated bike lanes, and roads that have ample shoulders so a rider can select a safer route to get where they want to go on two wheels. (And yes, busy thoroughfares like JYP have good shoulders, but who wants to ride next to all that frantic speeding traffic? Yikes!)

Idea Author: DL C

Number of Seconds 0

Number of Points 54

Number of Comments 3

Comment 1: Thank you for participating in this bicycle study and providing your input to the City of Orlando. The goal of this study is to prioritize the gaps in the trail network to build a more complete and convenient bicycle system. Your comments are valuable and will be provided to the study's consultant for their review. The first public meeting to display the initial findings of the study will be on Tuesday, February 18, 2014, at 5:30 p.m. at the Loch Haven Center, 610 North Lake Formosa Drive. If you would like to contact me directly please send me an email at ian.sikonia@cityoforlando.net.

http://www.cityoforlando.net/transportation/TransportationPlanningDiv/BikesPeds/pdf/2-18-14BikeRouteStudyPublicMeetingFlyer.pdf | By Ian S

Comment 2: I totally agree with Matt. Protected green bikeways seem to be the best solution for cyclist safety and encouraging people to ride. We need to get on this in Orlando! | By Todd M

Comment 3: Green floating bike lines in the network would be great --> http://la.streetsblog.org/2012/05/11/add-a-green-buffered-bike-lane-and-number-of-cyclists-explode/ | By Matt S

Idea Title: City needs to improve Bike Lanes on streets like Livingston St.

Idea Detail: Vehicles traveling on Livingston St do not yield to cyclists. There is not enough room in the road for both at Mills area. So maybe expand the sidewalks near Mills to accommodate bikes?

Idea Author: May P

Number of Seconds 0

Number of Points 50

Number of Comments 7

Comment 1: Perhaps the Concrete treatment could be applied to the full width of the road near the intersection coupled with "cyclist may use full lane" signage or sharrows to encourage cyclists to use the full lane at the intersection. | By Eliza H

Comment 2: @Julian V, the extended gutter pan is not identifiable as a bike lane because the bike lane stripe has worn off in many places. You would think it is obvious to motorists, but sadly it is not.
| By Ian S

Comment 3: I thought bike lanes on livingston st were very good. is a bricked street and the bike lanes are on an extruded gutter pan. We need more of this kind of treatment. | By Julian V

Comment 4: Thank you for participating in this bicycle study and providing your input to the City of Orlando. Your comments are valuable and will be provided to the study's consultant for their review. The first public meeting to display the initial findings of the study will be on Tuesday, February 18, 2014, at 5:30 p.m. at the Loch Haven Center, 610 North Lake Formosa Drive. If you would like to contact me directly please send me an email at ian.sikonia@cityoforlando.net.

http://www.cityoforlando.net/transportation/TransportationPlanningDiv/BikesPeds/pdf/2-18-14BikeRouteStudyPublicMeetingFlyer.pdf | By Ian S

Comment 5: Expanded sidewalks wouldn't be the best, as cyclists are not supposed to ride on sidewalks. A study of the Mills intersection should be a critical part of the City's bike plan as Livingston is THE best street for bikes (and has room to improve!) commuting to work from Baldwin Park and parts of Winter Park. | By Todd M

Comment 6: I am only for bike lanes where there is sufficient room for a safe bike land and traffic. Ideally where we could have room for a bike lane and parked cars would have additional room to open doors safely. If only narrow roads are available I like traffic calming and using car barriers that allow bicycles and pedestrians to get through to discourage fast through traffic. What about using East Ridgewood just south of Livingston? | By Robert F

Comment 7: I think this is a problem in many areas, especially downtown. Both cyclists and motorists need to better understand the rules of the road and the police need to enforce those rules, or the city needs to add dedicated bike lanes or widen the sidewalks and allow bikes to ride there. | By Sandra K

Idea Title: Orlando Urban Trail

Idea Detail: It goes by so many lakes and museums!

Idea Author: Natalie H

Number of Seconds 0

Number of Points 50

Number of Comments 1

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http://www.cityoforlando.net/transportation/TransportationPlanningDiv/BikesPeds/pdf/2-18-14BikeRouteStudyPublicMeetingFlyer.pdf | By Ian S

Idea Title: Plant more shade trees to create tunnels of cool shade.

Idea Detail: Palm trees do not cool down the trails & are not native.

Idea Author: Ellen M

Number of Seconds 0

Number of Points 50

Number of Comments 6

Comment 1: Native trees like Live Oak and others not only provide a cooling effect on the trails and beautiful scenery but also support animal life and the environment. | By PAOLA M

Comment 2: I agree! Additional shade trees not only provides a cooler ride but can also provide a more scenic ride. That being said I think it is important to plant the right kind of tree along the trails (like Todd mentioned, no palm trees) and to keep the trees well pruned so they do not block the trail or give the appearance of neglect. | By Jacques C

Comment 3: Thank you for participating in this bicycle study and providing your input to the City of Orlando. Your comments are valuable and will be provided to the study's consultant for their review. The first public meeting to display the initial findings of the study will be on Tuesday, February 18, 2014, at 5:30 p.m. at the Loch Haven Center, 610 North Lake Formosa Drive. If you would like to contact me directly please send me an email at ian.sikonia@cityoforlando.net.

http://www.cityoforlando.net/transportation/TransportationPlanningDiv/BikesPeds/pdf/2-18-14BikeRouteStudyPublicMeetingFlyer.pdf | By Ian S

Comment 4: Agreed! Some sections of the Cross Seminole Trail have this - and others are devoid of any solar or vehicular protection (trees are both!). We can significantly improve our trails by adding trees. (Shade trees! Not palms!) | By Todd M

Comment 5: I love this idea! I think this is perfect for bike and walking trails (and maybe even some sidewalk areas) and will get people out of cars. | By Sandra K

Comment 6: Shade is essential in order to be able to use the trails during many of the hot months in Florida! | By Natalie H

Idea Title: Cady Way

Idea Detail: I like it because it is wide, well maintained and goes through some pretty neighborhoods.

Idea Author: Matt R

Number of Seconds 0

Number of Points 45

Number of Comments 5

Comment 1: Local streets should yield to the regional trail. Like in the neighborhood between Roush Ave and Beach Blvd. I avoid that area entirely and go through Baldwin Park because having to stop every 200 feet on a regional trail is really crazy. Also parallel to Truman Rd. Summerfield Road is another local street that should stop for this regional trail. Cars stop half the time anyway but it's confusing who has right of way. It's also confusing because cars are supposed to yield to pedestrians in a crosswalk, but what about bikes? That law is unclear and Forsyth is well-marked but the cars are going way too fast for the crossing to feel very comfortable. What about when the bikes and the cars both have a stop sign? It's like an infinite loop. It's not marked as a four way stop. Who goes first? The worst is when there are stop signs on trail to yield to driveways. That's mostly up in Seminole County on the Cross Seminole Trail. | By Eliza H

> Comment 2: I agree, we avoid this part of the trail as well because you should not have to stop every 100 feet on the trail. Also the intersections come in all different shapes and angles in this neighborhood. | By Jacques C

Comment 3: And it connects to other trails for a longer bike ride | By David B

Comment 4: Thank you for participating in this bicycle study and providing your input to the City of Orlando. Your comments are valuable and will be provided to the study's consultant for their review. The first public meeting to display the initial findings of the study will be on Tuesday, February 18, 2014, at 5:30 p.m. at the Loch Haven Center, 610 North Lake Formosa Drive. If you would like to contact me directly please send me an email at ian.sikonia@cityoforlando.net.

http://www.cityoforlando.net/transportation/TransportationPlanningDiv/BikesPeds/pdf/2-18-14BikeRouteStudyPublicMeetingFlyer.pdf | By Ian S

Comment 5: I also like how long this trail is, although I'm concerned about safety on this trail since some sections are secluded and behind neighborhoods. | By Natalie H

Idea Title: Make and E-W Connector trail along SR408 right of way

Idea Detail: SR 408 has long, uninterrupted sections that would be perfect for a trail connecting downtown (South Urban Trail extension along Gertrude's Walk) to Lake Underhill system and up to Cady Way

Idea Author: Zac A

Number of Seconds 0

Number of Points 44

Number of Comments 1

Comment 1: Thank you for participating in this bicycle study and providing your input to the City of Orlando. The trail you mentioned is currently listed on the Orlando Trail Plan and will most likely be analyzed by the study's consultants. The first public meeting to display the initial findings of the study will be on Tuesday, February 18, 2014, at 5:30 p.m. at the Loch Haven Center, 610 North Lake Formosa Drive. If you would like to contact me directly please send me an email at ian.sikonia@cityoforlando.net. | By Ian S

Idea Title: Lake Baldwin Trail

Idea Detail: This trail is well used and pleasant with lots of shade and passing by the Fleet Peeple's Park and the Vietnam Memorial.

Idea Author: Natalie H

Number of Seconds 0

Number of Points 44

Number of Comments 2

Comment 1: There are a couple reasons that I this is one of my favorite trails to ride in Orlando:
1. There are no street crossings (I don't have to stop and negotiate with cars). One or two street crossings is not too bad but I find it much less appealing to ride my bike if I have to stop every few hundred feet to wait and cross a street.
2. The trail is not straight/ new things to see around each turn. Since the trail goes in a large circle around the lake there are many opportunities for new sights and things to see while riding along the trail, my favorite spot is one turn along the North-East side of the lake where there is a small pond on your right (clockwise around the lake) and you see the village center in front of you, so pretty.
3. I always see lots of other people using the trail, walking, cycling, jogging, rollerblading etc. I have more fun when I see other using the trails. | By Jacques C

Comment 2: Thank you for participating in this bicycle study and providing your input to the City of Orlando. Your comments are valuable and will be provided to the study's consultant for their review. The first public meeting to display the initial findings of the study will be on Tuesday, February 18, 2014, at 5:30 p.m. at the Loch Haven Center, 610 North Lake Formosa Drive. If you would like to contact me directly please send me an email at ian.sikonia@cityoforlando.net.

http://www.cityoforlando.net/transportation/TransportationPlanningDiv/BikesPeds/pdf/2-18-14BikeRouteStudyPublicMeetingFlyer.pdf | By Ian S

Idea Title: Dinky Line Trail

Idea Detail: This trail has been a remarkable addition to our neighborhood. It is wonderful to see resident activity increase and people using it as an alternative mode of transportation. Using the trail today, I noticed that motorists have become more aware and the crosswalk areas are serving as a traffic calming element.

I look forward to the day when the connection to Downtown is complete. I think that will be a positive gamechanger for our neighborhoods.

Idea Author: Scottie C

Number of Seconds 0

Number of Points 39

Number of Comments 2

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http://www.cityoforlando.net/transportation/TransportationPlanningDiv/BikesPeds/pdf/2-18-14BikeRouteStudyPublicMeetingFlyer.pdf | By Ian S

Comment 2: Connecting the trails and making them viable options for commutes to school or work would be great! | By Natalie H

Idea Title: Cady Way Trail

Idea Detail: It's the closest trail to home making it the obvious choice. I usually ride it into Seminole County where the name changes, but the pavement continues. It's exciting to watch the trail expand as it currently goes into Oviedo near Mitchell Hammock Rd.

Idea Author: Tom R

Number of Seconds 0

Number of Points 35

Number of Comments 1

Comment 1: I love this trail too, but getting from downtown can be VERY difficult. People do not notice you at times even in designated bike lanes and getting to those streets with bike lanes involve a lot of cobblestone roads that are not bike friendly. | By Andrew C

Idea Title: Urban Trail Link

Idea Detail: I love the Urban Trail and use it to get to Winter Park on my bike. It would be great to have a more direct trail from Downtown to Park Ave Winter Park and the Rollins area.

Idea Author: alex G

Number of Seconds 0

Number of Points 35

Number of Comments 2

Comment 1: A link through Mead Gardens would be ideal. | By Ian S

Comment 2: Thank you for participating in this bicycle study and providing your input to the City of Orlando. Your comments are valuable and will be provided to the study's consultant for their review. The first public meeting to display the initial findings of the study will be on Tuesday, February 18, 2014, at 5:30 p.m. at the Loch Haven Center, 610 North Lake Formosa Drive. If you would like to contact me directly please send me an email at ian.sikonia@cityoforlando.net.

http://www.cityoforlando.net/transportation/TransportationPlanningDiv/BikesPeds/pdf/2-18-14BikeRouteStudyPublicMeetingFlyer.pdf | By Ian S

Idea Title: Add bicycle education to plan

Idea Detail: Cyclists - and motorists, engineers, and planners - should all participate in bicycle education. Cycling Savvy started here in Orlando and is a great resource for learning how to ride your bike in a safe, efficient, and confident manner. Too often Education is the forgotten 4E.

Idea Author: Laura M

Number of Seconds 0

Number of Points 33

Number of Comments 2

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Comment 2: I agree 100% | By Sandra K

Idea Title: More network - less isolation

Idea Detail: West Orange, Cady Way, etc are great in their own way, but really only serve weekend recreation activities. We need more focus on defining a network of low speed neighborhood routes that interconnect. Combined with protected bike lanes in high density corridors, this will get the average riders on the road in higher numbers, and sooner, than trying to build a few isolated ribbons of concrete on out of the way boundaries.

If the network is within two blocks of your house, it's hard to miss it, but many drivers have no idea where (or if) bike trails exist.

Isolating bikes helps the weekend rider. A network helps everyone else.

Idea Author: Ian S

Number of Seconds 0

Number of Points 32

Number of Comments 1

Comment 1: I agree, the only trail I know of is the one in Baldwin, and I would only ride that for a weekend excursion. | By Michael S

Idea Title: Cyclists Improved Signage

Idea Detail: More signage to make drivers aware of cyclists. Obvious signs if a road is a bike trail or shared bike/car road.

I really enjoy the urban trail but can sometimes get lost or not know when it merges with another trail or ends. Would really appreciate clear signs directing the bike trail ect. I also like when signs tell you how long to your destination.

A example is the Appalachian Trail signage. It does a great job of directing you.

Idea Author: alex G

Number of Seconds 0

Number of Points 31

Number of Comments 3

Comment 1: I would like to see at least some paint that would make it clear to the motorist as well as the bicyclist where the trail crosses a road. Better yet on smaller roads is to have a raised cross for a bike trail. | By Robert F

Comment 2: I agree that additional, clearer signage would be helpful to both cyclists as well as pedestrians and car drivers. I also think more could be done at decision points along trails/shared roadways; there have been many times when I come to an intersection and it is very hard to tell which direction the trail goes. Additionally when an off street trail crosses a street without going directly across the street (you get to the street turn right or left and go 30 feet and then cross the road) more could be done to make these transitions clearer. A paint stripe or something similar could be used in these instances to make things more clear to the cyclist. | By Jacques C

Comment 3: Thank you for participating in this bicycle study and providing your input to the City of Orlando. Signage will be analyzed on the trail gap segments that will be evaluated as part of this study. Your comments are valuable and will be provided to the study's consultant for their review. The first public meeting to display the initial findings of the study will be on Tuesday, February 18, 2014, at 5:30 p.m. at the Loch Haven Center, 610 North Lake Formosa Drive. If you would like to contact me directly please send me an email at ian.sikonia@cityoforlando.net.

http://www.cityoforlando.net/transportation/TransportationPlanningDiv/BikesPeds/pdf/2-18-14BikeRouteStudyPublicMeetingFlyer.pdf | By Ian S

Idea Title: Cross Seminole Trail.

Idea Detail: Scenic and well-maintained. East to access via Cady Way.

Idea Author: Roger A

Number of Seconds 0

Number of Points 30

Number of Comments 2

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Comment 2: The segment between Cady Way and Red Bug is one of my least favorite trails in Central Florida. This part may be Orange County, not Orlando, but it seriously is in need of some trees as a buffer between the trail and the cars on Aloma. | By Todd M

Idea Title: Public Education and Better Design of Future Shared Roads

Idea Detail: 1. Public education to all residents of Orlando would be the best way to help with bicycle usage.
-The use of signage to educate residents of the laws of bicycle usage (Bicycles not allowed on sidewalks, Bicycles allowed to use road, Bicycles are vehicles and should be treated as such for both parties, etc.). This should help a majority of people who assume that the laws of bicycle usage are what they see in public instead of what the actual laws are.
-A small blurb in new license holders. Something as simple as two questions on a driver's license test quizzing test takers of bicycle laws.
-Popular youtube videos or commercials. Viral videos are a great way to educate not only Orlando residents but can extend to other cities/states. Imagine if we became a role model for other cities/states.

2. The best way to fix bike trails is to actually have the street rebuilt. This is costly and very unlikely to happen. Instead, new roads should be built with bicycle riders in mind.

Idea Author: Michael S

Number of Seconds 0

Number of Points 30

Number of Comments 4

Comment 1: When are we going to work on public education and awareness? Twice in the past week I've had a motorist yell out their window for me to get on the sidewalk. Last week a young woman nearly hit one of us while passing on a narrow brick road downtown, we caught her at the next light and she told us to get on the sidewalk! Uneducated motorists lead to more conflict and create an unsafe environment for cyclists. | By Jessica M

Comment 2: I agree with the education part! I'm guilty of using the sidewalks when I bike because many times I have encountered dangerous situations on the road. | By Michelle S

Comment 3: I agree! Education would go a long way towards improving ridership and awareness, and doesn't cost as much as rebuilding roads. | By Jessica M

Comment 4: I would be much more likely to bike around downtown if I felt drivers were more educated and less dangerous. | By Sandra K

Idea Title: New Bike Lanes!

Idea Detail: It would be great to add bike lanes along Anderson St and South St as between Lk Underhill rd and Orange ave/Rosalind Av. This would be such a great addition to the bike lane network as it would allow people to use these corridors to commute to work.

Idea Author: Julian V

Number of Seconds 0

Number of Points 29

Number of Comments 1

Comment 1: What do you think about a protected bike lane on Livingston instead? I'd rather ride that than South St. | By Ian S

Idea Title: Connect the trail off of Vineland Road and Conroy

Idea Detail: Connect the trail next to Millenia Elementary School to the trail that goes from Vineland to Conroy, sometime referred to as Shingle Creek Trail. Some of your. Current maps shoe it's connected and some do not. I can confirm that it isn't, you must ride off ride down an unpaved access road.

Idea Author: Jim T

Number of Seconds 0

Number of Points 25

Number of Comments 0

Idea Title: Add bike lanes to Greenwood Urban Wetland

Idea Detail: It's a great place to bike over to the cemetery and back. Need to control the dog population (running loose and its not even a dog park). Also, a wider lane would make it easy for foot traffic and bikes.

Idea Author: May P

Number of Seconds 0

Number of Points 24

Number of Comments 1

Comment 1: Thank you for participating in this bicycle study and providing your input to the City of Orlando. Your comments are valuable and will be provided to the study's consultant for their review. The first public meeting to display the initial findings of the study will be on Tuesday, February 18, 2014, at 5:30 p.m. at the Loch Haven Center, 610 North Lake Formosa Drive. If you would like to contact me directly please send me an email at ian.sikonia@cityoforlando.net.

http://www.cityoforlando.net/transportation/TransportationPlanningDiv/BikesPeds/pdf/2-18-14BikeRouteStudyPublicMeetingFlyer.pdf | By Ian S

Idea Title: What trail/street intersections need better visibility & design?

Idea Detail: A well designed intersection for all users has very good visibility between cars and bicycles pedestrians. The intersection should have well marked and signed indications that this is a bike trail and pedestrian crossing and 4 lane streets should have an island in the middle. Cady Way Trail and Forsyth Rd is a good example. What intersections have you had trouble seeing approaching cars (or vice versa)?

Idea Author: Robert F

Number of Seconds 0

Number of Points 24

Number of Comments 2

Comment 1: when is the next meeting ? I am now just learning about this forum. CADY WAY TRAIL is in desperate repair need. the Winter Park portion is being repaired/repaved and the Orange County portion is maintained. the City of Orlando portion is appalling quite frankly | By Dan T

Comment 2: Thank you for participating in this bicycle study and providing your input to the City of Orlando. The visibility of the off street trails when they intersect with streets will be analyzed as part of this study. Your comments are valuable and will be provided to the study's consultant for their review. The first public meeting to display the initial findings of the study will be on Tuesday, February 18, 2014, at 5:30 p.m. at the Loch Haven Center, 610 North Lake Formosa Drive. If you would like to contact me directly please send me an email at ian.sikonia@cityoforlando.net.

http://www.cityoforlando.net/transportation/TransportationPlanningDiv/BikesPeds/pdf/2-18-14BikeRouteStudyPublicMeetingFlyer.pdf | By Ian S

Idea Title: connect baldwin park trail to urban trail

Idea Detail: bike lanes on Corrine drive to Merrit Park and on through Rose Isle to urban Trail in Loch Haven Park

Idea Author: Jim H

Number of Seconds 0

Number of Points 23

Number of Comments 0

Idea Title: Shade trees - good and bad

Idea Detail: We have an active community of inline skaters whose wheels are very much smaller than a bicycle's wheels, also the brake pads are much smaller and hard to stop with. Shade trees are nice, however if planted too close to the trails, their root system raises significant bumps in the trails causing skaters to trip up and possible fall and injure themselves. It's actually worse on concrete sidewalks and trail sections because when the concrete fractures, it causes an upheval that is often larger than the half-height of a skate wheel. If the skater doesn't see it, or fails to lift the skate over that juncture, they WILL fall down! I will say that the city, of late, has been much more proactive about grinding down the raised parts to mitigate the danger. Thank You for that!

Idea Author: Jennings F

Number of Seconds 0

Number of Points 15

Number of Comments 4

Comment 1: Shade trees are critical to the value of the trail as they are to the value of a neighborhood. Examples - West Orange Trail where they just widened the adjacent road (stark, hot, unrelenting) - vs. Seminole Wekiva Trail south of 434 (beautiful, shady, tunnel of trees!) Proper Maintenance can solve problems. Think big. | By Todd M

Comment 2: Shade trees can be very good except right at the corners of intersections where they limit visibility, at intersections, (along with so close to a trail that the surface is damaged by root growth) Misplaced shade trees, scrubs, signs etc. prevent trail users from seeing cars and vice versa making it dangerous for all. We actually have to think about where we plant trees along our bike trails and routes and if a tree is causing a real safety hazard, such as totally blocking visibility at intersections it really has to go sooner or later, there are many other places it could and should be replaced, or at least don't replant right at the worse place. | By Robert F

Comment 3: Scott S88 - I absolutely agree that shade trees are an essential component for the trails! I only wanted to call attention to the hazzard that exists for some people using the trails. It is much more of a hazzard along the concrete sidewalks around town and those beautiful concrete parts of the trail system, thats all. | By Jennings F

Comment 4: Shade trees are a vital component of making trails enjoyable, especially for pedestrians. I agree that proper maintenace is essential to keeping people safe while using these parks! | By Scott S

Idea Title: See safety consideration for Cady Way

Idea Detail: Badly need crossing signs for pedestrians! Especially in the neighborhood of Baldwin Park. Cars speed down the local streets without regard to the dangers to pedestrians (walkers, bikers, skaters, children, etc). Also there are several intersections where dense bushes are planted right up to the street and thus blocking view of the intersections to both car traffic and trail users until they are right about to enter either.

Idea Author: Jennings F

Number of Seconds 0

Number of Points 13

Number of Comments 3

Comment 1: Thanks scott s114 for the update. I have not been able to do Cady Way for about a month. | By Jennings F

Comment 2: recent ped crossing signs were added to the cady way trail crossing at cady way road and they work great, very effective. recommend at all crossings if possible. | By scott S

Comment 3: Especially in the neighborhood of Baldwin Park. Cars speed down the local streets without regard to the dangers to pedestrians (walkers, bikers, skaters, children, etc). Also there are several intersections where dense bushes are planted right up to the street and thus blocking view of the intersections to both car traffic and trail users until they are right about to enter either. | By Jennings F

Idea Title: Remove bike lane from Rosalind

Idea Detail: The lane is sub standard in size and creates too many conflicts with right turning vehicles and straight traveling cyclists. Especially at Anderson and the 408.

Idea Author: Laura M

Number of Seconds 0

Number of Points 12

Number of Comments 9

Comment 1: I agree with Richard. A protected bike lane would be a great addition to Rosalind. The street is an important link and focusing on the safety of all its users should be paramount. As a region that performs among the worst in the nation for pedestrian and cyclist safety, we can't be afraid to invest in more substantial infrastructure in key areas. | By Sam G

Comment 2: Eliza H. Is right. This is a critical connection to Livingston and the Orlando Urban Trail. | By Richard G

Comment 3: Create a protected bike lane along Lake Eola Park. Parked cars should protect cyclists instead of a bike lane in the door zone. | By Richard G

Comment 4: Perhaps instead of having a one directional bike lane, rosalind ave would be a good street to try adding a bike lane on the other side going the other direction. The result: bikelanes at each side of the street - each going in a different direction - on a one way street. | By Julian V

Comment 5: Thank you for participating in this bicycle study and providing your input to the City of Orlando. This is a great discussion and the downtown on street bicycle network will be reevaluated in the near future. Your comments regarding Rosalind Avenue are valuable and will be provided to the study's consultant for their review. The first public meeting to display the initial findings of the study will be on Tuesday, February 18, 2014, at 5:30 p.m. at the Loch Haven Center, 610 North Lake Formosa Drive. If you would like to contact me directly please send me an email at ian.sikonia@cityoforlando.net. | By Ian S

Comment 6: Sharrows in both the right lane and the left lane would be a better alternative to bike lanes. On a one-way street bicyclists may use the outside lanes (right and left). It's in a bicyclist's interest to use the lane serving her destination from the time she enters the one-way street, rather than have to change lanes before making a turn. The bike lane restricts this ability because motorists expect the bicyclist to use it. I often see bicyclists making left turns across 3 lanes from the bike lane. Another bad behavior encouraged by the bike lane is opportunistic wrong-way riding.

It's an obstacle course of parked cars, right hooks, bus stops and salmon. The bike lane on Rosalind makes cycling on that street frustrating for those who know better, and it puts those who don't at risk. By contrast, Orange Ave is extremely easy and enjoyable to ride on (once you get south of Colonial).

As Laura said, bike lanes are not an appropriate tool for a dense urban street. | By Keri C

Comment 7: Bike boxes have their own issues. If the goal of the bike lane is to provide preferential treatment for bikes, then I suppose a bike lane with bike box makes sense. If the bike lane is to improve throughput for cars by getting the bikes out of the way, you've really only accomplished making the cyclist an inferior mode. What about Sharrows? - that way the cyclist and car are truly equal vehicles. The cyclist isn't forced to ride on the edge of the roadway and the cyclist is given the same priority/preference as other cars/modes.

Traffic is dense enough and slow enough to allow all modes to operate at around the same speed. I'm just not a fan of bike lanes in urban areas where you have on street parking, transit, and lots of right turns. | By Laura M

Comment 8: Please don't eliminate the whole bike lane. I use it all the time and it connects to the new Urban Trail.

The Anderson & Rosalind intersection really is a problem. A "bike box" and no right on red at Anderson would make sense. At the very least there should be no right on red during rush hour. During rush hour when you're worried about getting cars through, very few cars have a chance to turn right on red anyway because of the traffic on Anderson so there is no justification for permitting it. Maybe one car gets through at the end of the light cycle right when it's time for the bikes to go. It's dangerous for pedestrians too. Or worst case, the bike lane should probably start north of Anderson.

As streets go there aren't that many conflicts on Rosalind since it has very few driveways. Perhaps some of the lanes on Rosalind could probably be narrowed to make the bike lane wider. | By Eliza H

Comment 9: What do you suggest besides completely removing the bike lane? What is the alternative? | By Peter M

Idea Title: Safety consideration for Cady Way

Idea Detail: PLEASE install the roadway signs that say in effect that "Florida Law requires cars to yield to pedestrians" at all the dangerous road crossings near Baldwin Park. It is unreasonable for children or beginner skaters to stop at every crossing to avoid fast moving cars who show no respect for the trail crossings. My daughter and her young daughter in a 3-wheel stroller were almost run over by a fast moving car at the first intersection east of Balding Park. And I mean literally almost run over! Thank You for considering this safety improvement!

Idea Author: Jennings F

Number of Seconds 0

Number of Points 9

Number of Comments 0

Idea Title: ALAFAYA/WATERFORD LAKES/AVALON PARK

Idea Detail: This area of Orange County lacks parks and trails, although only recently the city added bike lanes in some streets. Still, this part of the county has grown much especially with young couples with children that need access to green areas in their vicinity and not within 10-15 miles!

Idea Author: PAOLA M

Number of Seconds 0

Number of Points 4

Number of Comments 0

Topic Name: Where Do You Think Future Trailheads or Rest Areas Should be Located?

Idea Title: corrine drive

Idea Detail: just as the west orange trail has helped revitalize winter garden, a rest area at corrine drive can take advantage of all the shopping, two bike shops and B3 restaurant to make audubon park a bike destination

Idea Author: Jim H

Number of Seconds 0

Number of Points 32

Number of Comments 8

Comment 1: In addition to this, please fix the deep potholes all over Corrine. It's dangerous to ride your bike there, period, even if you are out so early that there are no cars. I'm curious how it fell into such a state of disrepair, seemingly without any intervention. | By Michael S

Comment 2: In addition to this, please fix the deep potholes all over Corrine. It's dangerous to ride your bike there, period, even if you are out so early that there are no cars. I'm curious how it fell into such a state of disrepair, seemingly without any intervention, but it's both embarrassing and dangerous. | By Michael S

Comment 3: Jim,

Thank you for providing input to the Orlando Bicycle Study. I will forward your suggestion to the consultant for their review. I know the consultant will be analyzing Corrine Drive for bicycle accommodations and future connections as part of this study.

Have a good day. | By Ian S

Comment 4: bring this connectivity to Baldwin Park/Audubon Park/Mills 50! | By Sarah E

Comment 5: to connect to the urban trail, bike lanes through Merrit Park and Rose Isle would create a very pleasant ride | By Jim H

Comment 6: Agreed!
| By Todd M

Comment 7: To add to this: not just Corrine, but it should safely connect the Urban Trail near Mills Park to Baldwin Park, so it would include parts of Virginia and Forest Ave, as well. | By Michael S

Comment 8: Agreed. A cycle track along Corrine or something similar to the WOT through downtown Winter Garden would be the critical part, with a trailhead included. | By Todd M

Idea Title: Lake Ivanhoe Park, trail head, rest area and bicycle destination

Idea Detail: Lake Ivanhoe Park (1st) is potentially the bicycle destination and bike trail and route intersection for north of downtown Orlando. It has the Orlando Science Center and Museum, theaters and meeting places, The Florida Hospital village and SunRail station with logical bike connection to College Park via quiet safe E Winter Park and New Hampshire streets under I-4. Also it connects well to Winter Park through Rollins across SR17-92, and to Leu Gardens and Audubon Park through Nebraska Virginia and Highland streets, through Corrine to Baldwin park and eventually to Little Econ trail to UCF when a bridge over Semoran and short trial extension makes the connection. It is number one on my list as a Baldwin Park Resident.

Idea Author: Robert F

Number of Seconds 0

Number of Points 18

Number of Comments 2

Comment 1: Robert,

Thank you for providing input to the Orlando Bicycle Study. I will forward your suggestion to the consultant for their review.

Have a good day. | By Ian S

Comment 2: Robert - It sounds like you're describing Loch Haven Park. | By Scottie C

Idea Title: Historic Ivanhoe Building

Idea Detail: If the question is about the existing trail, my suggestion would be behind the Historic Ivanhoe Building (old OUC power plant). If it includes the extension to Downtown, my

suggestion is the land on the corner of N. Garland Ave. and Legion Place.

Idea Author: Scottie C

Number of Seconds 0

Number of Points 9

Number of Comments 1

Comment 1: Scottie,

Thank you for providing input to the Orlando Bicycle Study. I will forward your suggestion to the consultants for their review.

Have a good day. | By Ian S

Idea Title: Build out the trails south of the city

Idea Detail: If you look at those trail maps there is a gaping hole... nothing goes south of the city to the hospital and the train station... there are many great parks near SODO, build some formal off road bike paths that connect CBD to SODO, The SunRail stop and all the great parks!

Idea Author: Jason C

Number of Seconds 0

Number of Comments 0

Topic Name (Instant Poll): Public Art on the Trails

Idea Title: Yes

Number of Seconds 21

Idea Title: No

Number of Seconds 1

Comments

Number of Comments 1

Comment 1: The Seminole Wekiva trail has some amazing art on the fences along the trail that really add to the overall feel. Partnering with local artists to collaborate on art installations would benefit the Orlando trails. | By Andrew C

Appendix D – Corridor Cost Estimates

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	2		**Priority:**	Low
Name:	OBT Trail		**Quadrant:**	West
Length (mi):	Off-Street Trail:	3.47		
	On-Street Route:	0.00		
	Total:	3.47		
Special Features:				

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	3.47	Mile	$ 500,000	$ 1,735,000	
	Signs (8 per mile, each direction)	3.47	Mile	$ 2,800	$ 9,716	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	-	Mile	$ 2,800	$ -	
	Shared lane markings (every 250' each direction)	-	Mile	$ 8,400	$ -	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	-	EA	$ 4,000	$ -	
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	-	LO	$ 15,000	$ -	
	Crosswalk	-	EA	$ 2,500	$ -	
	Pedestrian Signal, new	-	EA	$ 150,000	$ -	
	Add pedestrian features to existing signal	-	EA	$ 11,600	$ -	
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	-	EA	$ 300,000	$ -	
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	
	Minor trailhead (parking, kiosk only)	-	EA	$ 750,000	$ -	
	Rest area (water fountain, benches)	7	EA	$ 25,000	$ 175,000	2/mi
	Intersection reconfiguration	-	EA	$ 350,000	$ -	
	Shift roadway curbing	-	LF	$ 100	$ -	
				Sub-Total:	$ 1,919,800	
			Mobilization:	10%	$ 191,980	
			Maintenance of Traffic:	8%	$ 153,584	
			Landscaping:	5%	$ 95,990	
				Sub-Total:	$ 2,361,400	
			Contingency:	25%	$ 590,350	
				Total Construction Cost:	**$ 2,960,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 444,000	
				Total Project Cost:	**$ 3,410,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	3		**Priority:**	Low
Name:	Mercy Drive Connector		**Quadrant:**	West
Length (mi):	Off-Street Trail:	0.04		
	On-Street Route:	2.00		
	Total:	2.04		
Special Features:				

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	0.04	Mile	$ 500,000	$ 20,000	
	Signs (8 per mile, each direction)	0.04	Mile	$ 2,800	$ 112	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	2.00	Mile	$ 2,800	$ 5,600	
	Shared lane markings (every 250' each direction)	2.00	Mile	$ 8,400	$ 16,800	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	-	EA	$ 4,000	$ -	
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	-	LO	$ 15,000	$ -	
	Crosswalk	-	EA	$ 2,500	$ -	
	Pedestrian Signal, new	-	EA	$ 150,000	$ -	
	Add pedestrian features to existing signal	-	EA	$ 11,600	$ -	
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	-	EA	$ 300,000	$ -	
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	
	Minor trailhead (parking, kiosk only)	-	EA	$ 750,000	$ -	
	Rest area (water fountain, benches)	-	EA	$ 25,000	$ -	
	Intersection reconfiguration	1	EA	$ 350,000	$ 350,000	Mercy/Fairvilla
	Shift roadway curbing	-	LF	$ 100	$ -	
				Sub-Total:	$ 392,600	
			Mobilization:	10%	$ 39,260	
			Maintenance of Traffic:	3%	$ 11,778	
			Landscaping:	5%	$ 19,630	
				Sub-Total:	$ 463,300	
			Contingency:	25%	$ 115,825	
				Total Construction Cost:	**$ 580,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 87,000	
				Total Project Cost:	**$ 670,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	4		**Priority:**	Low
Name:	Carver Shores Trail		**Quadrant:**	West
Length (mi):	Off-Street Trail:	0.71		
	On-Street Route:	0.00		
	Total:	0.71		
Special Features:				

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	0.71	Mile	$ 500,000	$ 355,000	
	Signs (8 per mile, each direction)	0.71	Mile	$ 2,800	$ 1,988	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	-	Mile	$ 2,800	$ -	
	Shared lane markings (every 250' each direction)	-	Mile	$ 8,400	$ -	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	-	EA	$ 4,000	$ -	
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	-	LO	$ 15,000	$ -	
	Crosswalk	-	EA	$ 2,500	$ -	
	Pedestrian Signal, new	-	EA	$ 150,000	$ -	
	Add pedestrian features to existing signal	-	EA	$ 11,600	$ -	
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	-	EA	$ 300,000	$ -	
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	
	Minor trailhead (parking, kiosk only)	-	EA	$ 750,000	$ -	
	Rest area (water fountain, benches)	1	EA	$ 25,000	$ 25,000	2/mi
	Intersection reconfiguration	-	EA	$ 350,000	$ -	
	Shift roadway curbing	-	LF	$ 100	$ -	
				Sub-Total:	$ 382,000	
			Mobilization:	10%	$ 38,200	
			Maintenance of Traffic:	3%	$ 11,460	
			Landscaping:	5%	$ 19,100	
				Sub-Total:	$ 450,800	
			Contingency:	25%	$ 112,700	
				Total Construction Cost:	**$ 570,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 85,500	
				Total Project Cost:	**$ 660,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	5 (Preferred Route)		**Priority:**	High
Name:	OUT West Segment 2		**Quadrant:**	West
Length (mi):	Off-Street Trail:	1.88		
	On-Street Route:	0.98		
	Total:	2.86		
Special Features:				

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	1.63	Mile	$ 500,000	$ 815,000	
	Signs (8 per mile, each direction)	1.88	Mile	$ 2,800	$ 5,264	
	Boardwalk (12')	0.25	Mile	$ 2,200,000	$ 550,000	
On-Street Route:	Signs (8 per mile, each direction)	0.98	Mile	$ 2,800	$ 2,744	
	Shared lane markings (every 250' each direction)	0.98	Mile	$ 8,400	$ 8,232	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	-	EA	$ 4,000	$ -	
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	1	LO	$ 15,000	$ 15,000	Tampa Ave
	Crosswalk	-	EA	$ 2,500	$ -	
	Pedestrian Signal, new	1	EA	$ 150,000	$ 150,000	Bruton Blvd ped signal
	Remove existing median island	1	EA	$ 20,000	$ 20,000	Existing Bruton Blvd median island
	Median island (12' wide, 50' long)	1	EA	$ 4,400	$ 4,400	Bruton Blvd ped signal
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	1	EA	$ 300,000	$ 300,000	canal xing near Clear Lake
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	using existing parks for TH
	Minor trailhead (parking, kiosk only)	-	EA	$ 750,000	$ -	
	Rest area (water fountain, benches)	4	EA	$ 25,000	$ 100,000	2/mi
	Intersection reconfiguration	1	EA	$ 350,000	$ 350,000	SR 408 EB off ramp / Tampa Ave
	Relocate utility pole	11	EA	$ 20,000	$ 220,000	Goldwyn Ave; Tampa Ave; Monte Carlo Tr
				Sub-Total:	$ 2,540,700	
			Mobilization:	10%	$ 254,070	
			Maintenance of Traffic:	8%	$ 203,256	
			Landscaping:	5%	$ 127,035	
				Sub-Total:	$ 3,125,100	
			Contingency:	25%	$ 781,275	
				Total Construction Cost:	**$ 3,910,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 586,500	
				Total Project Cost:	**$ 4,500,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	5 (Alternative Route North)		**Priority:**	High
Name:	OUT West Segment 2		**Quadrant:**	West
Length (mi):	Off-Street Trail:	0.40		
	On-Street Route:	0.00		
	Total:	0.40		
Special Features:	Cost only includes the portion of the route that is different from the preferred route			

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	0.40	Mile	$ 500,000	$ 200,000	
	Signs (8 per mile, each direction)	0.40	Mile	$ 2,800	$ 1,120	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	-	Mile	$ 2,800	$ -	
	Shared lane markings (every 250' each direction)	-	Mile	$ 8,400	$ -	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	-	EA	$ 4,000	$ -	
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	1	LO	$ 15,000	$ 15,000	Tampa Ave
	Crosswalk	-	EA	$ 2,500	$ -	
	Pedestrian Signal, new	-	EA	$ 150,000	$ -	
	Add pedestrian features to existing signal	-	EA	$ 11,600	$ -	
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	-	EA	$ 300,000	$ -	
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	
	Minor trailhead (parking, kiosk only)	-	EA	$ 750,000	$ -	
	Rest area (water fountain, benches)	-	EA	$ 25,000	$ -	
	Intersection reconfiguration	-	EA	$ 350,000	$ -	
	Shift roadway curbing	-	LF	$ 100	$ -	
				Sub-Total:	$ 216,200	
			Mobilization:	10%	$ 21,620	
			Maintenance of Traffic:	8%	$ 17,296	
			Landscaping:	5%	$ 10,810	
				Sub-Total:	$ 266,000	
			Contingency:	25%	$ 66,500	
				Total Construction Cost:	**$ 340,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 51,000	
				Total Project Cost:	**$ 400,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	5 (Alternative Route South)		**Priority:**	High
Name:	OUT West Segment 2		**Quadrant:**	West
Length (mi):	Off-Street Trail:	0.46		
	On-Street Route:	0.41		
	Total:	0.87		
Special Features:	Cost only includes the portion of the route that is different from the preferred route			

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	0.46	Mile	$ 500,000	$ 230,000	
	Signs (8 per mile, each direction)	0.46	Mile	$ 2,800	$ 1,288	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	0.41	Mile	$ 2,800	$ 1,148	
	Shared lane markings (every 250' each direction)	0.41	Mile	$ 8,400	$ 3,444	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	-	EA	$ 4,000	$ -	
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	-	LO	$ 15,000	$ -	
	Crosswalk	1	EA	$ 2,500	$ 2,500	Tampa/Orange Center
	Pedestrian Signal, new	-	EA	$ 150,000	$ -	
	Add pedestrian features to existing signal	1	EA	$ 11,600	$ 11,600	Tampa/Orange Center
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	-	EA	$ 300,000	$ -	
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	
	Minor trailhead (parking, kiosk only)	-	EA	$ 750,000	$ -	
	Relocate utility pole	-	EA	$ 20,000	$ -	
	Intersection reconfiguration	1	EA	$ 350,000	$ 350,000	Gore at G. Barker Park; opening in Monte Carlo wall
	Cut trail opening in existing wall	1	EA	$ 6,000	$ 6,000	Monte Carlo Tr cul-de-sac east of John Young Pkwy
				Sub-Total:	$ 606,000	
			Mobilization:	10%	$ 60,600	
			Maintenance of Traffic:	8%	$ 48,480	
			Landscaping:	5%	$ 30,300	
				Sub-Total:	$ 745,400	
			Contingency:	25%	$ 186,350	
				Total Construction Cost:	**$ 940,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 141,000	
				Total Project Cost:	**$ 1,090,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	6		**Priority:**	High
Name:	OUT West Segment 1		**Quadrant:**	North
Length (mi):	Off-Street Trail:	1.21		
	On-Street Route:	0.00		
	Total:	1.21		
Special Features:				

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	1.21	Mile	$ 500,000	$ 605,000	
	Signs (8 per mile, each direction)	1.21	Mile	$ 2,800	$ 3,388	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	-	Mile	$ 2,800	$ -	
	Shared lane markings (every 250' each direction)	-	Mile	$ 8,400	$ -	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	50	LF	$ 200	$ 10,000	
	Drainage inlet structure modification	-	EA	$ 4,000	$ -	
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	5	LO	$ 15,000	$ 75,000	Rio Grande, Carter St (midblock), Westmoreland, Parramore, Terry, Division
	Crosswalk	7	EA	$ 2,500	$ 17,500	Rio Grande, Carter St (midblock), Westmoreland, Parramore, Terry (2), Division
	Pedestrian Signal, new	-	EA	$ 150,000	$ -	
	Add pedestrian features to existing signal	-	EA	$ 11,600	$ -	
	Median island (12' wide, 50' long)	1	EA	$ 4,400	$ 4,400	Rio Grande Ave (S approach)
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	-	EA	$ 300,000	$ -	
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	
	Minor trailhead (parking, kiosk only)	-	EA	$ 750,000	$ -	
	Rest area (water fountain, benches)	2	EA	$ 25,000	$ 50,000	2/mi
	Relocate utility pole	7	EA	$ 20,000	$ 140,000	Carter St, Rio Grande to OBT
	Shift roadway curbing	250	LF	$ 100	$ 25,000	Westmoreland Ave
				Sub-Total:	$ 930,300	
			Mobilization:	10%	$ 93,030	
			Maintenance of Traffic:	8%	$ 74,424	
			Landscaping:	5%	$ 46,515	
				Sub-Total:	$ 1,144,300	
			Contingency:	25%	$ 286,075	
				Total Construction Cost:	**$ 1,440,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 216,000	
				Total Project Cost:	**$ 1,660,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	7 (Preferred Route)		**Priority:**	Medium
Name:	Catalina - Holden Heights Connector		**Quadrant:**	West
Length (mi):	Off-Street Trail:	1.29		
	On-Street Route:	1.84		
	Total:	3.13		
Special Features:				

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	1.29	Mile	$ 500,000	$ 645,000	
	Signs (8 per mile, each direction)	1.29	Mile	$ 2,800	$ 3,612	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	1.84	Mile	$ 2,800	$ 5,152	
	Shared lane markings (every 250' each direction)	1.72	Mile	$ 8,400	$ 14,448	
	Buffered Bike Lane	0.12	Mile	$ 163,900	$ 19,668	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	-	EA	$ 4,000	$ -	
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	-	LO	$ 15,000	$ -	
	Crosswalk	1	EA	$ 2,500	$ 2,500	John Young Pkwy/First Baptist Church
	Pedestrian Signal, new	2	EA	$ 150,000	$ 300,000	Bruton/Kirkland; Division/Michigan
	Add pedestrian features to existing signal	1	EA	$ 11,600	$ 11,600	John Young Pkwy/First Baptist Church
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	1	EA	$ 300,000	$ 300,000	over canal adjacent to First Baptist Church
	Cut trail opening in existing wall	1	EA	$ 6,000	$ 6,000	West end of Gulfstream Rd east of John Young Pkwy
	Relocate utility pole	10	EA	$ 20,000	$ 200,000	29th St, Telstar to Rio Grande
	Rest area (water fountain, benches)	3	EA	$ 25,000	$ 75,000	2/mi on trail
	Intersection reconfiguration	1	EA	$ 350,000	$ 350,000	Division/Michigan
	Shift roadway curbing	1,720	LF	$ 100	$ 172,000	29th St, Telstar to Rio Grande
				Sub-Total:	$ 2,105,000	
			Mobilization:	10%	$ 210,500	
			Maintenance of Traffic:	8%	$ 168,400	
			Landscaping:	5%	$ 105,250	
				Sub-Total:	$ 2,589,200	
			Contingency:	25%	$ 647,300	
				Total Construction Cost:	**$ 3,240,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 486,000	
				Total Project Cost:	**$ 3,730,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	7 (Alternative Route)		**Priority:**	Medium
Name:	Catalina - Holden Heights Connector		**Quadrant:**	West
Length (mi):	Off-Street Trail:	0.35		
	On-Street Route:	0.28		
	Total:	0.63		
Special Features:				

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12' w/ retaining walls & significant grading required)	0.35	Mile	$ 1,400,000	$ 490,000	
	Signs (8 per mile, each direction)	0.35	Mile	$ 2,800	$ 980	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	0.28	Mile	$ 2,800	$ 784	
	Shared lane markings (every 250' each direction)	0.28	Mile	$ 8,400	$ 2,352	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	-	EA	$ 4,000	$ -	
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	-	LO	$ 15,000	$ -	
	Crosswalk	-	EA	$ 2,500	$ -	
	Pedestrian Signal, new	-	EA	$ 150,000	$ -	
	Add pedestrian features to existing signal	-	EA	$ 11,600	$ -	
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	-	EA	$ 300,000	$ -	
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	
	Minor trailhead (parking, kiosk only)	-	EA	$ 750,000	$ -	
	Rest area (water fountain, benches)	-	EA	$ 25,000	$ -	
	Intersection reconfiguration	-	EA	$ 350,000	$ -	
	Relocate light pole	10	EA	$ 5,000	$ 50,000	John Young Pkwy
				Sub-Total:	$ 544,200	
			Mobilization:	10%	$ 54,420	
			Maintenance of Traffic:	8%	$ 43,536	
			Landscaping:	5%	$ 27,210	
				Sub-Total:	$ 669,400	
			Contingency:	25%	$ 167,350	
				Total Construction Cost:	**$ 840,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 126,000	
				Total Project Cost:	**$ 970,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	8		**Priority:**	Medium
Name:	Parramore Connector Route		**Quadrant:**	North
Length (mi):	Off-Street Trail:	0.00		
	On-Street Route:	1.70		
	Total:	1.70		
Special Features:				

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	-	Mile	$ 500,000	$ -	
	Signs (8 per mile, each direction)	-	Mile	$ 2,800	$ -	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	1.70	Mile	$ 2,800	$ 4,760	
	Shared lane markings (every 250' each direction)	1.70	Mile	$ 8,400	$ 14,280	
	Buffered Bike Lane	0.31	Mile	$ 163,900	$ 50,809	Gore St to Grand St
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	-	EA	$ 4,000	$ -	
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	-	LO	$ 15,000	$ -	
	Crosswalk	-	EA	$ 2,500	$ -	
	Pedestrian Signal, new	-	EA	$ 150,000	$ -	
	Add pedestrian features to existing signal	-	EA	$ 11,600	$ -	
	Median island (12' wide, 50' long)	1	EA	$ 4,400	$ 4,400	Parramore/Kaley
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	-	EA	$ 300,000	$ -	
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	
	Minor trailhead (parking, kiosk only)	-	EA	$ 750,000	$ -	
	Rest area (water fountain, benches)	-	EA	$ 25,000	$ -	
	Intersection reconfiguration	-	EA	$ 350,000	$ -	
	Shift roadway curbing	-	LF	$ 100	$ -	
				Sub-Total:	$ 74,300	
			Mobilization:	10%	$ 7,430	
			Maintenance of Traffic:	3%	$ 2,229	
			Landscaping:	5%	$ 3,715	
				Sub-Total:	$ 87,700	
			Contingency:	25%	$ 21,925	
				Total Construction Cost:	**$ 110,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 16,500	
				Total Project Cost:	**$ 130,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	9 (Preferred Route)		**Priority:**	High
Name:	Downtown Central Trail		**Quadrant:**	North
Length (mi):	Off-Street Trail:	2.45		
	On-Street Route:	0.05		
	Total:	2.50		
Special Features:				

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	2.45	Mile	$ 500,000	$ 1,225,000	
	Signs (8 per mile, each direction)	2.45	Mile	$ 2,800	$ 6,860	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	0.05	Mile	$ 2,800	$ 140	
	Shared lane markings (every 250' each direction)	0.05	Mile	$ 8,400	$ 420	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	-	EA	$ 4,000	$ -	
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	-	LO	$ 15,000	$ -	
	Crosswalk	32	EA	$ 2,500	$ 80,000	All side streets & driveways
	Pedestrian Signal, new	-	EA	$ 150,000	$ -	
	Add pedestrian features to existing signal	-	EA	$ 11,600	$ -	
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass		LF	$ 10,000	$ -	
	Prefab pedestrian bridge	-	EA	$ 300,000	$ -	
	Relocate utility pole	-	EA	$ 20,000	$ -	
	Relocate light pole	4	EA	$ 5,000	$ 20,000	Garland Ave, South to Church
	Rest area (water fountain, benches)	-	EA	$ 25,000	$ -	
	Construct wall	560	LF	$ 240	$ 134,400	between trail & RR adjacent to City Commons garage
	Intersection reconfiguration	1	EA	$ 350,000	$ 350,000	Division Ave/Michigan St
				Sub-Total:	$ 1,816,900	
			Mobilization:	10%	$ 181,690	
			Maintenance of Traffic:	8%	$ 145,352	
			Landscaping:	5%	$ 90,845	
				Sub-Total:	$ 2,234,800	
			Contingency:	25%	$ 558,700	
				Total Construction Cost:	**$ 2,800,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 420,000	
				Total Project Cost:	**$ 3,220,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	9 (Preferred Route, only sections outside City & I-4 projects)		**Priority:**	High
Name:	Downtown Central Trail		**Quadrant:**	North
Length (mi):	Off-Street Trail:	0.37		
	On-Street Route:	0.05		
	Total:	0.42		

Special Features: Does not include sections in which construction would be included in the City's stormwater project on Division Avenue or the I-4 Ultimate project. It also does not include upgrades to the portions of the proposed trail along South Street and Garland Avenue (other than signage) which are trail-compatible today

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	0.37	Mile	$ 500,000	$ 185,000	
	Signs (8 per mile, each direction)	2.45	Mile	$ 2,800	$ 6,860	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	0.05	Mile	$ 2,800	$ 140	
	Shared lane markings (every 250' each direction)	0.05	Mile	$ 8,400	$ 420	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	-	EA	$ 4,000	$ -	
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	-	LO	$ 15,000	$ -	
	Crosswalk	1	EA	$ 2,500	$ 2,500	All side streets & driveways
	Pedestrian Signal, new	-	EA	$ 150,000	$ -	
	Add pedestrian features to existing signal	-	EA	$ 11,600	$ -	
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	-	EA	$ 300,000	$ -	
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	
	Minor trailhead (parking, kiosk only)	-	EA	$ 750,000	$ -	
	Rest area (water fountain, benches)	-	EA	$ 25,000	$ -	
	Mill & resurface 4-lane roadway	-	Mile	$ 1,035,100	$ -	
	Shift roadway curbing	-	LF	$ 100	$ -	
				Sub-Total:	$ 195,000	
			Mobilization:	10%	$ 19,500	
			Maintenance of Traffic:	8%	$ 15,600	
			Landscaping:	5%	$ 9,750	
				Sub-Total:	$ 239,900	
			Contingency:	25%	$ 59,975	
				Total Construction Cost:	**$ 300,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 45,000	
				Total Project Cost:	**$ 350,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	9 (North Alternative Route)		**Priority:**	High
Name:	Downtown Central Trail		**Quadrant:**	North
Length (mi):	Off-Street Trail:	0.00		
	On-Street Route:	0.46		
	Total:	0.46		
Special Features:				

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	-	Mile	$ 500,000	$ -	
	Signs (8 per mile, each direction)	-	Mile	$ 2,800	$ -	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	0.46	Mile	$ 2,800	$ 1,288	
	Shared lane markings (every 250' each direction)	0.46	Mile	$ 8,400	$ 3,864	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	-	EA	$ 4,000	$ -	
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	-	LO	$ 15,000	$ -	
	Crosswalk	-	EA	$ 2,500	$ -	
	Pedestrian Signal, new	-	EA	$ 150,000	$ -	
	Add pedestrian features to existing signal	-	EA	$ 11,600	$ -	
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	-	EA	$ 300,000	$ -	
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	
	Minor trailhead (parking, kiosk only)	-	EA	$ 750,000	$ -	
	Rest area (water fountain, benches)	-	EA	$ 25,000	$ -	
	Mill & resurface 4-lane roadway	-	Mile	$ 1,035,100	$ -	
	Shift roadway curbing	-	LF	$ 100	$ -	
				Sub-Total:	$ 5,200	
			Mobilization:	10%	$ 520	
			Maintenance of Traffic:	8%	$ 416	
			Landscaping:	5%	$ 260	
				Sub-Total:	$ 6,400	
			Contingency:	25%	$ 1,600	
				Total Construction Cost:	**$ 10,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 1,500	
				Total Project Cost:	**$ 20,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	9 (South Alternative Route)		**Priority:**	High
Name:	Downtown Central Trail		**Quadrant:**	North
Length (mi):	Off-Street Trail:	0.11		
	On-Street Route:	1.62		
	Total:	1.73		
Special Features:				

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	0.11	Mile	$ 500,000	$ 55,000	
	Signs (8 per mile, each direction)	0.11	Mile	$ 2,800	$ 308	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	1.62	Mile	$ 2,800	$ 4,536	
	Shared lane markings (every 250' each direction)	1.62	Mile	$ 8,400	$ 13,608	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	1	EA	$ 4,000	$ 4,000	
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	-	LO	$ 15,000	$ -	
	Crosswalk	1	EA	$ 2,500	$ 2,500	Sylvia Ln / Boone Ave Ext
	Pedestrian Signal, new	-	EA	$ 150,000	$ -	
	Add pedestrian features to existing signal	-	EA	$ 11,600	$ -	
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	-	EA	$ 300,000	$ -	
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	
	Minor trailhead (parking, kiosk only)	-	EA	$ 750,000	$ -	
	Rest area (water fountain, benches)	-	EA	$ 25,000	$ -	
	Mill & resurface 4-lane roadway	-	Mile	$ 1,035,100	$ -	
	Shift roadway curbing	300	LF	$ 100	$ 30,000	new curbing on S side of Columbia St, one block
				Sub-Total:	$ 110,000	
			Mobilization:	10%	$ 11,000	
			Maintenance of Traffic:	8%	$ 8,800	
			Landscaping:	5%	$ 5,500	
				Sub-Total:	$ 135,300	
			Contingency:	25%	$ 33,825	
				Total Construction Cost:	**$ 170,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 25,500	
				Total Project Cost:	**$ 200,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	10		**Priority:**	Low
Name:	Vineland Road Trail		**Quadrant:**	West
Length (mi):	Off-Street Trail:	0.41		
	On-Street Route:	0.00		
	Total:	0.41		
Special Features:				

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	0.41	Mile	$ 500,000	$ 205,000	
	Signs (8 per mile, each direction)	0.41	Mile	$ 2,800	$ 1,148	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	-	Mile	$ 2,800	$ -	
	Shared lane markings (every 250' each direction)	-	Mile	$ 8,400	$ -	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	-	EA	$ 4,000	$ -	
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	-	LO	$ 15,000	$ -	
	Crosswalk	-	EA	$ 2,500	$ -	
	Pedestrian Signal, new	1	EA	$ 150,000	$ 150,000	midblock on Shingle Crk Canal bridge
	Add pedestrian features to existing signal	-	EA	$ 11,600	$ -	
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	-	EA	$ 300,000	$ -	
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	
	Minor trailhead (parking, kiosk only)	-	EA	$ 750,000	$ -	
	Rest area (water fountain, benches)	-	EA	$ 25,000	$ -	
	Intersection reconfiguration	-	EA	$ 350,000	$ -	
	Shift roadway curbing	-	LF	$ 100	$ -	
				Sub-Total:	$ 356,200	
			Mobilization:	10%	$ 35,620	
			Maintenance of Traffic:	8%	$ 28,496	
			Landscaping:	5%	$ 17,810	
				Sub-Total:	$ 438,200	
			Contingency:	25%	$ 109,550	
				Total Construction Cost:	**$ 550,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 82,500	
				Total Project Cost:	**$ 640,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	11		**Priority:**	Low
Name:	Millenia Trail Connectors		**Quadrant:**	West
Length (mi):	Off-Street Trail:	2.67		
	On-Street Route:	0.30		
	Total:	2.97		
Special Features:				

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	2.67	Mile	$ 500,000	$ 1,335,000	
	Signs (8 per mile, each direction)	2.67	Mile	$ 2,800	$ 7,476	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	0.30	Mile	$ 2,800	$ 840	
	Shared lane markings (every 250' each direction)	0.30	Mile	$ 8,400	$ 2,520	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	-	EA	$ 4,000	$ -	
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	1	LO	$ 15,000	$ 15,000	Rio Grande Ave
	Crosswalk	-	EA	$ 2,500	$ -	
	Pedestrian Signal, new	1	EA	$ 150,000	$ 150,000	John Young Pkwy
	Add pedestrian features to existing signal	-	EA	$ 11,600	$ -	
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	2	EA	$ 300,000	$ 600,000	Millenia Mall area; W of Texas Ave
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	
	Minor trailhead (parking, kiosk only)	-	EA	$ 750,000	$ -	
	Rest area (water fountain, benches)	5	EA	$ 25,000	$ 125,000	2/mi
	Intersection reconfiguration	-	EA	$ 350,000	$ -	
	Shift roadway curbing	-	LF	$ 100	$ -	
				Sub-Total:	$ 2,235,900	
			Mobilization:	10%	$ 223,590	
			Maintenance of Traffic:	3%	$ 67,077	
			Landscaping:	5%	$ 111,795	
				Sub-Total:	$ 2,638,400	
			Contingency:	25%	$ 659,600	
				Total Construction Cost:	**$ 3,300,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 495,000	
				Total Project Cost:	**$ 3,800,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	12 (Preferred Route)		**Priority:**	Low
Name:	Conway East-West On-Street Connector		**Quadrant:**	East
Length (mi):	Off-Street Trail:	2.33		
	On-Street Route:	4.03		
	Total:	6.36		
Special Features:				

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	2.33	Mile	$ 500,000	$ 1,163,500	
	Signs (8 per mile, each direction)	2.33	Mile	$ 2,800	$ 6,516	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	4.03	Mile	$ 2,800	$ 11,284	
	Shared lane markings (every 250' each direction)	4.03	Mile	$ 8,400	$ 33,852	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	-	EA	$ 4,000	$ -	
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	-	LO	$ 15,000	$ -	
	Crosswalk	6	EA	$ 2,500	$ 15,000	
	Pedestrian Signal, new	-	EA	$ 150,000	$ -	
	Add pedestrian features to existing signal	3	EA	$ 11,600	$ 34,800	Conway/Gatlin; Dixie Belle/Pershing; SR 436/Pershing
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	-	EA	$ 300,000	$ -	
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	
	Minor trailhead (parking, kiosk only)	-	EA	$ 750,000	$ -	
	Rest area (water fountain, benches)	2	EA	$ 25,000	$ 50,000	
	Relocate utility pole	3	EA	$ 20,000	$ 60,000	Michigan, Mayer to Mills
	Shift roadway curbing	-	LF	$ 100	$ -	
				Sub-Total:	$ 1,375,000	
			Mobilization:	10%	$ 137,500	
			Maintenance of Traffic:	8%	$ 110,000	
			Landscaping:	5%	$ 68,750	
				Sub-Total:	$ 1,691,300	
			Contingency:	25%	$ 422,825	
				Total Construction Cost:	**$ 2,120,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 318,000	
				Total Project Cost:	**$ 2,440,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	14 & 15 (Preferred Route)		**Priority:**	Low
Name:	Vista East Trail		**Quadrant:**	East
Length (mi):	Off-Street Trail:	3.66		
	On-Street Route:	0.00		
	Total:	3.66		
Special Features:	Costs do not include wetland mitigation, which may be required			

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	3.66	Mile	$ 500,000	$ 1,827,500	
	Signs (8 per mile, each direction)	3.66	Mile	$ 2,800	$ 10,234	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	-	Mile	$ 2,800	$ -	
	Shared lane markings (every 250' each direction)	-	Mile	$ 8,400	$ -	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	-	EA	$ 4,000	$ -	
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	7	EA	$ 3,000	$ 21,000	Assume cross drain every half mile
Traffic Elements:	RRFB	-	LO	$ 15,000	$ -	
	Crosswalk	1	EA	$ 2,500	$ 2,500	Lee Vista Blvd
	Pedestrian Signal, new	-	EA	$ 150,000	$ -	
	Add pedestrian features to existing signal	1	EA	$ 11,600	$ 11,600	Lee Vista Blvd
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	Trail to cross SR 528 with Econ Trail Roadway improvements
	Prefab pedestrian bridge	-	EA	$ 300,000	$ -	
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	
	Minor trailhead (parking, kiosk only)	-	EA	$ 750,000	$ -	
	Rest area (water fountain, benches)	8	EA	$ 25,000	$ 200,000	Provided every 1/2 mile
	Intersection reconfiguration	-	EA	$ 350,000	$ -	
	Shift roadway curbing	-	LF	$ 100	$ -	
				Sub-Total:	$ 2,072,900	
			Mobilization:	10%	$ 207,290	
			Maintenance of Traffic:	3%	$ 62,187	
			Landscaping:	5%	$ 103,645	
				Sub-Total:	$ 2,446,100	
			Contingency:	25%	$ 611,525	
				Total Construction Cost:	**$ 3,060,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 459,000	
				Total Project Cost:	**$ 3,520,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	17 (Alternative Route)		**Priority:**	Low
Name:	Lake Underhill Path - SR 436 Bridge		**Quadrant:**	East
Length (mi):	Off-Street Trail:	0.00		
	On-Street Route:	0.81		
	Total:	0.81		
Special Features:				

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	-	Mile	$ 500,000	$ -	
	Signs (8 per mile, each direction)	-	Mile	$ 2,800	$ -	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	0.81	Mile	$ 2,800	$ 2,268	
	Shared lane markings (every 250' each direction)	0.81	Mile	$ 8,400	$ 6,804	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	-	EA	$ 4,000	$ -	
	Regrade pond bank or canal		LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	-	LO	$ 15,000	$ -	
	Crosswalk	-	EA	$ 2,500	$ -	
	Pedestrian Signal, new	-	EA	$ 150,000	$ -	
	Add pedestrian features to existing signal	2	EA	$ 11,600	$ 23,200	SR 436/Yew; Lk. Underhill/Yucatan
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	SR 436 Bridge not included - cost estimate developed separately as part of City feasibility study
	Prefab pedestrian bridge	-	EA	$ 300,000	$ -	
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	
	Minor trailhead (parking, kiosk only)	-	EA	$ 750,000	$ -	
	Rest area (water fountain, benches)	-	EA	$ 25,000	$ -	
	Intersection reconfiguration	-	EA	$ 350,000	$ -	
	Shift roadway curbing	-	LF	$ 100	$ -	
				Sub-Total:	$ 32,300	
			Mobilization:	10%	$ 3,230	
			Maintenance of Traffic:	3%	$ 969	
			Landscaping:	0%	$ -	No landscaping for on-street route
				Sub-Total:	$ 36,500	
			Contingency:	25%	$ 9,125	
				Total Construction Cost:	**$ 50,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 7,500	
				Total Project Cost:	**$ 60,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	18 (Preferred Route)		**Priority:**	High
Name:	Englewood Trail		**Quadrant:**	East
Length (mi):	Off-Street Trail:	2.64		
	On-Street Route:	0.00		
	Total:	2.64		
Special Features:				

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	2.64	Mile	$ 500,000	$ 1,318,500	
	Signs (8 per mile, each direction)	2.64	Mile	$ 2,800	$ 7,384	
	Boardwalk (12')		Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	-	Mile	$ 2,800	$ -	
	Shared lane markings (every 250' each direction)	-	Mile	$ 8,400	$ -	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	25	LF	$ 200	$ 5,000	Cross drainage canal south of Appian Way
	Drainage inlet structure modification	4	EA	$ 4,000	$ 16,000	
	Regrade pond bank or canal	1,500	LF	$ 100	$ 150,000	Modify dry ponds between Stonewall Jackson and La Costa Dr
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	2	LO	$ 15,000	$ 30,000	La Costa; Oxalis
	Crosswalk	5	EA	$ 2,500	$ 12,500	Appian Way; Shenandoad Way; Stonewall Jackson Rd; La Costa Dr; Oxalis Ave
	Pedestrian Signal, new	-	EA	$ 150,000	$ -	
	Add pedestrian features to existing signal	-	EA	$ 11,600	$ -	
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	-	EA	$ 300,000	$ -	
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	
	Minor trailhead (parking, kiosk only)	-	EA	$ 750,000	$ -	
	Rest area (water fountain, benches)	6	EA	$ 25,000	$ 150,000	Provided every 1/2 mile
	Intersection reconfiguration	-	EA	$ 350,000	$ -	
	Shift roadway curbing	-	LF	$ 100	$ -	
				Sub-Total:	$ 1,689,400	
			Mobilization:	10%	$ 168,940	
			Maintenance of Traffic:	8%	$ 135,152	
			Landscaping:	5%	$ 84,470	
				Sub-Total:	$ 2,078,000	
			Contingency:	25%	$ 519,500	
				Total Construction Cost:	**$ 2,600,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 390,000	
				Total Project Cost:	**$ 2,990,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	23-24		**Priority:**	Low
Name:	Narcoossee Road Trail		**Quadrant:**	South
Length (mi):	Off-Street Trail:	3.42		
	On-Street Route:	0.00		
	Total:	3.42		
Special Features:				

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	3.42	Mile	$ 500,000	$ 1,710,000	
	Signs (8 per mile, each direction)	3.42	Mile	$ 2,800	$ 9,576	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	-	Mile	$ 2,800	$ -	
	Shared lane markings (every 250' each direction)	-	Mile	$ 8,400	$ -	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	-	EA	$ 4,000	$ -	
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	-	LO	$ 15,000	$ -	
	Crosswalk	-	EA	$ 2,500	$ -	
	Pedestrian Signal, new	-	EA	$ 150,000	$ -	
	Add pedestrian features to existing signal	-	EA	$ 11,600	$ -	
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	-	EA	$ 300,000	$ -	
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	
	Minor trailhead (parking, kiosk only)	-	EA	$ 750,000	$ -	
	Rest area (water fountain, benches)	7	EA	$ 25,000	$ 175,000	2/mi
	Intersection reconfiguration	1	EA	$ 350,000	$ 350,000	SR 417 EB off ramp at Narcoossee Rd
	Shift roadway curbing	-	LF	$ 100	$ -	
				Sub-Total:	$ 2,244,600	
			Mobilization:	10%	$ 224,460	
			Maintenance of Traffic:	8%	$ 179,568	
			Landscaping:	5%	$ 112,230	
				Sub-Total:	$ 2,760,900	
			Contingency:	25%	$ 690,225	
				Total Construction Cost:	**$ 3,460,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 519,000	
				Total Project Cost:	**$ 3,980,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	28		**Priority:**	Low
Name:	Southport Trail		**Quadrant:**	South
Length (mi):	Off-Street Trail:	3.49		
	On-Street Route:	0.00		
	Total:	3.49		
Special Features:				

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	3.49	Mile	$ 500,000	$ 1,745,000	
	Signs (8 per mile, each direction)	3.49	Mile	$ 2,800	$ 9,772	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	-	Mile	$ 2,800	$ -	
	Shared lane markings (every 250' each direction)	-	Mile	$ 8,400	$ -	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	-	EA	$ 4,000	$ -	
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	-	LO	$ 15,000	$ -	
	Crosswalk	4	EA	$ 2,500	$ 10,000	8th/Express St, Ave C, Binnacle Wy, 3rd St
	Pedestrian Signal, new	2	EA	$ 150,000	$ 300,000	Daetwyler at S. Frontage & McCoy Rds
	Add pedestrian features to existing signal	-	EA	$ 11,600	$ -	
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	-	EA	$ 300,000	$ -	
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	
	Minor trailhead (parking, kiosk only)	-	EA	$ 750,000	$ -	
	Rest area (water fountain, benches)	7	EA	$ 25,000	$ 175,000	2/mi
	Intersection reconfiguration	2	EA	$ 350,000	$ 700,000	Daetwyler at S. Frontage & McCoy Rds
	Shift roadway curbing	-	LF	$ 100	$ -	
				Sub-Total:	$ 2,939,800	
			Mobilization:	10%	$ 293,980	
			Maintenance of Traffic:	8%	$ 235,184	
			Landscaping:	5%	$ 146,990	
				Sub-Total:	$ 3,616,000	
			Contingency:	25%	$ 904,000	
				Total Construction Cost:	**$ 4,520,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 678,000	
				Total Project Cost:	**$ 5,200,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	29 (Preferred Route)		**Priority:**	High
Name:	Downtown Connector Trail		**Quadrant:**	North
Length (mi):	Off-Street Trail:	2.40		
	On-Street Route:	0.00		
	Total:	2.40		
Special Features:				

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	2.40	Mile	$ 500,000	$ 1,200,000	
	Signs (8 per mile, each direction)	2.40	Mile	$ 2,800	$ 6,720	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	-	Mile	$ 2,800	$ -	
	Shared lane markings (every 250' each direction)	-	Mile	$ 8,400	$ -	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	19	EA	$ 4,000	$ 76,000	Anderson at Margaret Ct & Mills to Bumby
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	-	LO	$ 15,000	$ -	
	Crosswalk	18	EA	$ 2,500	$ 45,000	All side streets
	Pedestrian Signal, new	-	EA	$ 150,000	$ -	
	Add pedestrian features to existing signal	-	EA	$ 11,600	$ -	
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	-	EA	$ 300,000	$ -	
	Relocate utility pole	15	EA	$ 20,000	$ 300,000	Anderson St, Delaney to Mills
	Relocate light pole	13	EA	$ 5,000	$ 65,000	Anderson St, Mills to Bumby
	Rest area (water fountain, benches)	-	EA	$ 25,000	$ -	
	Mill & resurface 4-lane roadway	0.12	Mile	$ 1,035,100	$ 127,427	lane shift - Anderson St, W of Bumby Ave
	Shift roadway curbing	3,250	LF	$ 100	$ 325,000	Anderson St, Mills to Bumby
				Sub-Total:	$ 2,145,200	
			Mobilization:	10%	$ 214,520	
			Maintenance of Traffic:	8%	$ 171,616	
			Landscaping:	5%	$ 107,260	
				Sub-Total:	$ 2,638,600	
			Contingency:	25%	$ 659,650	
				Total Construction Cost:	**$ 3,300,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 495,000	
				Total Project Cost:	**$ 3,800,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	29 (North Alternative Route)		**Priority:**	High
Name:	Downtown Connector Trail		**Quadrant:**	North
Length (mi):	Off-Street Trail:	0.51		
	On-Street Route:	1.79		
	Total:	2.30		
Special Features:				

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	0.39	Mile	$ 500,000	$ 195,000	Mills Ave, N side of SR 408, Const. Green Park
	Signs (8 per mile, each direction)	0.51	Mile	$ 2,800	$ 1,428	
	Trail (12' w/ retaining walls & significant grading required)	0.12	Mile	$ 1,400,000	$ 168,000	Summerlin Ave & SR 408 landscape shelf area
On-Street Route:	Signs (8 per mile, each direction)	1.79	Mile	$ 2,800	$ 5,012	
	Shared lane markings (every 250' each direction)	1.79	Mile	$ 8,400	$ 15,036	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	1	EA	$ 4,000	$ 4,000	Mills Ave N of SR 408
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	-	LO	$ 15,000	$ -	
	Crosswalk	3	EA	$ 2,500	$ 7,500	Anderson/Mills; South/Summerlin
	Pedestrian Signal, new	-	EA	$ 150,000	$ -	
	Add pedestrian features to existing signal	-	EA	$ 11,600	$ -	
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	-	EA	$ 300,000	$ -	
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	
	Relocate light pole	1	EA	$ 5,000	$ 5,000	Summerlin, SR 408 to South
	Rest area (water fountain, benches)	-	EA	$ 25,000	$ -	
	Mill & resurface 4-lane roadway	-	Mile	$ 1,035,100	$ -	
	Shift roadway curbing	370	LF	$ 100	$ 37,000	Mills Ave at SR 408
				Sub-Total:	$ 438,000	
			Mobilization:	10%	$ 43,800	
			Maintenance of Traffic:	8%	$ 35,040	
			Landscaping:	5%	$ 21,900	
				Sub-Total:	$ 538,800	
			Contingency:	25%	$ 134,700	
				Total Construction Cost:	**$ 680,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 102,000	
				Total Project Cost:	**$ 790,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	29 (South Alternative Route)		**Priority:**	High
Name:	Downtown Connector Trail		**Quadrant:**	North
Length (mi):	Off-Street Trail:	0.47		
	On-Street Route:	0.94		
	Total:	1.41		
Special Features:				

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	0.15	Mile	$ 500,000	$ 75,000	Greenwood Urban Wetland Park
	Signs (8 per mile, each direction)	0.47	Mile	$ 2,800	$ 1,316	
	Trail (12' w/ retaining walls & significant grading required)	0.32	Mile	$ 1,400,000	$ 448,000	S. Lake Lucerne Cir
On-Street Route:	Signs (8 per mile, each direction)	0.94	Mile	$ 2,800	$ 2,632	
	Shared lane markings (every 250' each direction)	0.94	Mile	$ 8,400	$ 7,896	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	-	EA	$ 4,000	$ -	
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	-	LO	$ 15,000	$ -	
	Crosswalk	-	EA	$ 2,500	$ -	
	Pedestrian Signal, new	-	EA	$ 150,000	$ -	
	Add pedestrian features to existing signal	-	EA	$ 11,600	$ -	
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	-	EA	$ 300,000	$ -	
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	
	Relocate light pole	10	EA	$ 5,000	$ 50,000	W. Lucerne Cir
	Rest area (water fountain, benches)	-	EA	$ 25,000	$ -	
	Mill & resurface 4-lane roadway	-	Mile	$ 1,035,100	$ -	
	Shift roadway curbing	-	LF	$ 100	$ -	
				Sub-Total:	$ 584,900	
			Mobilization:	10%	$ 58,490	
			Maintenance of Traffic:	8%	$ 46,792	
			Landscaping:	5%	$ 29,245	
				Sub-Total:	$ 719,500	
			Contingency:	25%	$ 179,875	
				Total Construction Cost:	**$ 900,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 135,000	
				Total Project Cost:	**$ 1,040,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	33		**Priority:**	High
Name:	OUT, Colonial Overpass to Dinky Line		**Quadrant:**	North
Length (mi):	Off-Street Trail:	0.40		
	On-Street Route:	0.00		
	Total:	0.40		
Special Features:				

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12' w/ retaining walls & significant grading required)	0.40	Mile	$ 1,400,000	$ 560,000	
	Signs (8 per mile, each direction)	0.40	Mile	$ 2,800	$ 1,120	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	-	Mile	$ 2,800	$ -	
	Shared lane markings (every 250' each direction)	-	Mile	$ 8,400	$ -	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	-	EA	$ 4,000	$ -	
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	-	LO	$ 15,000	$ -	
	Crosswalk	3	EA	$ 2,500	$ 7,500	
	Pedestrian Signal, new	2	EA	$ 150,000	$ 300,000	Magnolia/Weber; Orange/Trail @ RR
	Add pedestrian features to existing signal	-	EA	$ 11,600	$ -	
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass		LF	$ 10,000	$ -	
	Prefab pedestrian bridge	1	EA	$ 300,000	$ 300,000	MSE wall/structure conn to Colonial overpass
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	
	Minor trailhead (parking, kiosk only)	-	EA	$ 750,000	$ -	
	Rest area (water fountain, benches)	-	EA	$ 25,000	$ -	
	Relocate utility pole	3	EA	$ 20,000	$ 60,000	Weber, west of Magnolia
	Construct wall	1,690	LF	$ 240	$ 405,504	Along RR, SR 50 overpass to west of Magnolia Ave
				Sub-Total:	$ 1,634,200	
			Mobilization:	10%	$ 163,420	
			Maintenance of Traffic:	8%	$ 130,736	
			Landscaping:	5%	$ 81,710	
				Sub-Total:	$ 2,010,100	
			Contingency:	25%	$ 502,525	
				Total Construction Cost:	**$ 2,520,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 378,000	
				Total Project Cost:	**$ 2,900,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	33, Marks St - Orange Ave Alternative Route		**Priority:**	High
Name:	OUT, Colonial Overpass to Dinky Line		**Quadrant:**	North
Length (mi):	Off-Street Trail:	0.43		
	On-Street Route:	0.00		
	Total:	0.43		
Special Features:				

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12' w/ retaining walls & significant grading required)	0.43	Mile	$ 1,400,000	$ 602,000	
	Signs (8 per mile, each direction)	0.43	Mile	$ 2,800	$ 1,204	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	-	Mile	$ 2,800	$ -	
	Shared lane markings (every 250' each direction)	-	Mile	$ 8,400	$ -	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	2	EA	$ 4,000	$ 8,000	
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	-	LO	$ 15,000	$ -	
	Crosswalk	4	EA	$ 2,500	$ 10,000	
	Pedestrian Signal, new	1	EA	$ 150,000	$ 150,000	Magnolia/Weber
	Add pedestrian features to existing signal	-	EA	$ 11,600	$ -	
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	1	EA	$ 300,000	$ 300,000	MSE wall/structure conn to Colonial overpass
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	
	Minor trailhead (parking, kiosk only)	-	EA	$ 750,000	$ -	
	Relocate utility pole	1	EA	$ 20,000	$ 20,000	Marks St
	Intersection reconfiguration	-	EA	$ 350,000	$ -	
	Shift roadway curbing	190	LF	$ 100	$ 19,000	Marks St
				Sub-Total:	$ 1,110,300	
			Mobilization:	10%	$ 111,030	
			Maintenance of Traffic:	8%	$ 88,824	
			Landscaping:	5%	$ 55,515	
				Sub-Total:	$ 1,365,700	
			Contingency:	25%	$ 341,425	
				Total Construction Cost:	**$ 1,710,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 256,500	
				Total Project Cost:	**$ 1,970,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	33, Park Lake St - Magnolia Ave Alternative Route		**Priority:**	High
Name:	OUT, Colonial Overpass to Dinky Line		**Quadrant:**	North
Length (mi):	Off-Street Trail:	0.42		
	On-Street Route:	0.00		
	Total:	0.42		
Special Features:				

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	0.42	Mile	$ 500,000	$ 210,000	
	Signs (8 per mile, each direction)	0.42	Mile	$ 2,800	$ 1,176	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	-	Mile	$ 2,800	$ -	
	Shared lane markings (every 250' each direction)	-	Mile	$ 8,400	$ -	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	1	EA	$ 4,000	$ 4,000	
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	-	LO	$ 15,000	$ -	
	Crosswalk	6	EA	$ 2,500	$ 15,000	
	Pedestrian Signal, new	1	EA	$ 150,000	$ 150,000	Orange / Park Lake
	Add pedestrian features to existing signal	-	EA	$ 11,600	$ -	
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	-	EA	$ 300,000	$ -	
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	
	Minor trailhead (parking, kiosk only)	-	EA	$ 750,000	$ -	
	Relocate light pole	3	EA	$ 5,000	$ 15,000	Magnolia Ave
	Intersection reconfiguration	-	EA	$ 350,000	$ -	
	Shift roadway curbing	540	LF	$ 100	$ 54,000	Magnolia Ave
				Sub-Total:	$ 449,200	
			Mobilization:	10%	$ 44,920	
			Maintenance of Traffic:	8%	$ 35,936	
			Landscaping:	5%	$ 22,460	
				Sub-Total:	$ 552,600	
			Contingency:	25%	$ 138,150	
				Total Construction Cost:	**$ 700,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 105,000	
				Total Project Cost:	**$ 810,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	34		**Priority:**	Medium
Name:	South College Park Connector Route		**Quadrant:**	North
Length (mi):	Off-Street Trail:	0.61		
	On-Street Route:	1.36		
	Total:	1.97		
Special Features:				

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	0.61	Mile	$ 500,000	$ 305,000	
	Signs (8 per mile, each direction)	0.61	Mile	$ 2,800	$ 1,708	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	1.36	Mile	$ 2,800	$ 3,808	
	Shared lane markings (every 250' each direction)	1.36	Mile	$ 8,400	$ 11,424	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	-	EA	$ 4,000	$ -	
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	-	LO	$ 15,000	$ -	
	Crosswalk	-	EA	$ 2,500	$ -	
	Pedestrian Signal, new	-	EA	$ 150,000	$ -	
	Add pedestrian features to existing signal	-	EA	$ 11,600	$ -	
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	-	EA	$ 300,000	$ -	
	Relocate utility pole	1	EA	$ 20,000	$ 20,000	OBT, Golfview to midblock xing
	Relocate light pole	8	EA	$ 5,000	$ 40,000	OBT, Golfview to midblock xing
	Rest area (water fountain, benches)	-	EA	$ 25,000	$ -	
	Intersection reconfiguration	1	EA	$ 350,000	$ 350,000	Ivanhoe / Lakeview
	Shift roadway curbing	-	LF	$ 100	$ -	
				Sub-Total:	$ 732,000	
			Mobilization:	10%	$ 73,200	
			Maintenance of Traffic:	8%	$ 58,560	
			Landscaping:	5%	$ 36,600	
				Sub-Total:	$ 900,400	
			Contingency:	25%	$ 225,100	
				Total Construction Cost:	**$ 1,130,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 169,500	
				Total Project Cost:	**$ 1,300,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	34 (Alternative Route)		**Priority:**	Medium
Name:	South College Park Connector Route		**Quadrant:**	North
Length (mi):	Off-Street Trail:	0.68		
	On-Street Route:	1.31		
	Total:	1.99		
Special Features:				

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	0.68	Mile	$ 500,000	$ 340,000	
	Signs (8 per mile, each direction)	0.68	Mile	$ 2,800	$ 1,904	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	1.31	Mile	$ 2,800	$ 3,668	
	Shared lane markings (every 250' each direction)	1.31	Mile	$ 8,400	$ 11,004	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	-	EA	$ 4,000	$ -	
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	-	LO	$ 15,000	$ -	
	Crosswalk	-	EA	$ 2,500	$ -	
	Pedestrian Signal, new	-	EA	$ 150,000	$ -	
	Add pedestrian features to existing signal	-	EA	$ 11,600	$ -	
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	-	EA	$ 300,000	$ -	
	Relocate utility pole	1	EA	$ 20,000	$ 20,000	OBT, Golfview to midblock xing
	Relocate light pole	8	EA	$ 5,000	$ 40,000	OBT, Golfview to midblock xing
	Rest area (water fountain, benches)	-	EA	$ 25,000	$ -	
	Intersection reconfiguration	1	EA	$ 350,000	$ 350,000	Ivanhoe / Lakeview
	Shift roadway curbing	-	LF	$ 100	$ -	
				Sub-Total:	$ 766,600	
			Mobilization:	10%	$ 76,660	
			Maintenance of Traffic:	8%	$ 61,328	
			Landscaping:	5%	$ 38,330	
				Sub-Total:	$ 943,000	
			Contingency:	25%	$ 235,750	
				Total Construction Cost:	**$ 1,180,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 177,000	
				Total Project Cost:	**$ 1,360,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	37		**Priority:**	Low
Name:	Valencia - Shingle Creek Trail Connector		**Quadrant:**	West
Length (mi):	Off-Street Trail:	0.58		
	On-Street Route:	0.00		
	Total:	0.58		
Special Features:				

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	0.58	Mile	$ 500,000	$ 290,000	
	Signs (8 per mile, each direction)	0.58	Mile	$ 2,800	$ 1,624	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	-	Mile	$ 2,800	$ -	
	Shared lane markings (every 500' each direction)	0.23	Mile	$ 4,000	$ 920	SLM on Metrowest Blvd WB only
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	5	EA	$ 4,000	$ 20,000	inlets along Metrowest Blvd
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	-	LO	$ 15,000	$ -	
	Crosswalk	1	EA	$ 2,500	$ 2,500	Kirkman/Sterling Crest
	Pedestrian Signal, new	-	EA	$ 150,000	$ -	
	Add pedestrian features to existing signal	1	EA	$ 11,600	$ 11,600	Kirkman/Sterling Crest
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	-	EA	$ 300,000	$ -	
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	
	Minor trailhead (parking, kiosk only)	-	EA	$ 750,000	$ -	
	Rest area (water fountain, benches)	-	EA	$ 25,000	$ -	
	Shift roadway curbing	1,400.00	LF	$ 100	$ 140,000	Metrowest Blvd, bridge to Kirkman Rd
	Relocate light pole		EA	$ 5,000		
				Sub-Total:	$ 466,700	
			Mobilization:	10%	$ 46,670	
			Maintenance of Traffic:	8%	$ 37,336	
			Landscaping:	5%	$ 23,335	
				Sub-Total:	$ 574,100	
			Contingency:	25%	$ 143,525	
				Total Construction Cost:	**$ 720,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 108,000	
				Total Project Cost:	**$ 830,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	38		**Priority:**	Medium
Name:	North College Park Connector Route		**Quadrant:**	North
Length (mi):	Off-Street Trail:	0.09		
	On-Street Route:	3.00		
	Total:	3.09		
Special Features:				

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	0.09	Mile	$ 500,000	$ 45,000	
	Signs (8 per mile, each direction)	0.09	Mile	$ 2,800	$ 252	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	3.00	Mile	$ 2,800	$ 8,400	
	Shared lane markings (every 250' each direction)	3.00	Mile	$ 8,400	$ 25,200	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	-	EA	$ 4,000	$ -	
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	-	LO	$ 15,000	$ -	
	Crosswalk	-	EA	$ 2,500	$ -	
	Pedestrian Signal, new	-	EA	$ 150,000	$ -	
	Add pedestrian features to existing signal	-	EA	$ 11,600	$ -	
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	-	EA	$ 300,000	$ -	
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	
	Minor trailhead (parking, kiosk only)	-	EA	$ 750,000	$ -	
	Rest area (water fountain, benches)	-	EA	$ 25,000	$ -	
	Intersection reconfiguration	-	EA	$ 350,000	$ -	
	Shift roadway curbing	-	LF	$ 100	$ -	
				Sub-Total:	$ 78,900	
			Mobilization:	10%	$ 7,890	
			Maintenance of Traffic:	8%	$ 6,312	
			Landscaping:	5%	$ 3,945	
				Sub-Total:	$ 97,100	
			Contingency:	25%	$ 24,275	
				Total Construction Cost:	**$ 130,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 19,500	
				Total Project Cost:	**$ 150,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	38 (Alternative Route)		**Priority:**	Medium
Name:	North College Park Connector Route		**Quadrant:**	North
Length (mi):	Off-Street Trail:	0.09		
	On-Street Route:	2.96		
	Total:	3.05		
Special Features:				

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	0.09	Mile	$ 500,000	$ 45,000	
	Signs (8 per mile, each direction)	0.09	Mile	$ 2,800	$ 252	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	2.96	Mile	$ 2,800	$ 8,288	
	Shared lane markings (every 250' each direction)	2.96	Mile	$ 8,400	$ 24,864	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	-	EA	$ 4,000	$ -	
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	-	LO	$ 15,000	$ -	
	Crosswalk	-	EA	$ 2,500	$ -	
	Pedestrian Signal, new	-	EA	$ 150,000	$ -	
	Add pedestrian features to existing signal	-	EA	$ 11,600	$ -	
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	-	EA	$ 300,000	$ -	
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	
	Minor trailhead (parking, kiosk only)	-	EA	$ 750,000	$ -	
	Rest area (water fountain, benches)	-	EA	$ 25,000	$ -	
	Intersection reconfiguration	-	EA	$ 350,000	$ -	
	Shift roadway curbing	-	LF	$ 100	$ -	
				Sub-Total:	$ 78,500	
			Mobilization:	10%	$ 7,850	
			Maintenance of Traffic:	8%	$ 6,280	
			Landscaping:	5%	$ 3,925	
				Sub-Total:	$ 96,600	
			Contingency:	25%	$ 24,150	
				Total Construction Cost:	**$ 130,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 19,500	
				Total Project Cost:	**$ 150,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	40 (Preferred Route)		**Priority:**	Low
Name:	Conway North-South On-Street Connector		**Quadrant:**	East
Length (mi):	Off-Street Trail:	0.12		
	On-Street Route:	7.38		
	Total:	7.50		
Special Features:				

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	0.12	Mile	$ 500,000	$ 57,500	Connect Watauga Ave between Surrey Dr and Brandy St
	Signs (8 per mile, each direction)	0.12	Mile	$ 2,800	$ 322	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	7.38	Mile	$ 2,800	$ 20,672	
	Shared lane markings (every 250' each direction)	7.38	Mile	$ 8,400	$ 62,017	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	-	EA	$ 4,000	$ -	
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	3	LO	$ 15,000	$ 45,000	E. Michigan, Lk. Margaret; Anderson
	Crosswalk	3	EA	$ 2,500	$ 7,500	Hoffner; Cove Dr; Judge
	Pedestrian Signal, new	1	EA	$ 150,000	$ 150,000	Curry Ford
	Add pedestrian features to existing signal	4	EA	$ 11,600	$ 46,400	Hoffner; Cove Dr; Judge; Daetwyler Dr
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	-	EA	$ 300,000	$ -	
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	
	Minor trailhead (parking, kiosk only)	-	EA	$ 750,000	$ -	
	Rest area (water fountain, benches)	-	EA	$ 25,000	$ -	
	Intersection reconfiguration	-	EA	$ 350,000	$ -	
	Shift roadway curbing	-	LF	$ 100	$ -	
				Sub-Total:	$ 389,500	
			Mobilization:	10%	$ 38,950	
			Maintenance of Traffic:	3%	$ 11,685	
			Landscaping:	5%	$ 19,475	
				Sub-Total:	$ 459,700	
			Contingency:	25%	$ 114,925	
				Total Construction Cost:	**$ 580,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 87,000	
				Total Project Cost:	**$ 670,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	42 (Preferred Route)		**Priority:**	Low
Name:	Airport North On-Street Connector		**Quadrant:**	East
Length (mi):	Off-Street Trail:	0.47		
	On-Street Route:	4.78		
	Total:	5.25		
Special Features:				

Element		Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	0.47	Mile	$ 500,000	$ 233,000	
	Signs (8 per mile, each direction)	0.47	Mile	$ 2,800	$ 1,305	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	4.78	Mile	$ 2,800	$ 13,392	
	Shared lane markings (every 250' each direction)	4.78	Mile	$ 8,400	$ 40,177	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	-	EA	$ 4,000	$ -	
	Regrade pond bank or canal	1,200	LF	$ 100	$ 120,000	E/W canal N. of Pershing
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	1	LO	$ 15,000	$ 15,000	Lee Vista
	Crosswalk	4	EA	$ 2,500	$ 10,000	Gatlin, Turnbull, TPC, SR 528
	Pedestrian Signal, new	3	EA	$ 150,000	$ 450,000	Pershing; Hoffner
	Add pedestrian features to existing signal	4	EA	$ 11,600	$ 46,400	Gatlin, Turnbull, TPC, SR 528
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	-	EA	$ 300,000	$ -	
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	
	Minor trailhead (parking, kiosk only)	-	EA	$ 750,000	$ -	
	Rest area (water fountain, benches)	-	EA	$ 25,000	$ -	
	Intersection reconfiguration	-	EA	$ 350,000	$ -	
	Shift roadway curbing	-	LF	$ 100	$ -	
				Sub-Total:	$ 929,300	
			Mobilization:	10%	$ 92,930	
			Maintenance of Traffic:	3%	$ 27,879	
			Landscaping:	5%	$ 46,465	
				Sub-Total:	$ 1,096,600	
			Contingency:	25%	$ 274,150	
				Total Construction Cost:	**$ 1,380,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 207,000	
				Total Project Cost:	**$ 1,590,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	44 (Preferred Route)		**Priority:**	Medium
Name:	Lake Lawne Trail		**Quadrant:**	West
Length (mi):	Off-Street Trail:	3.65		
	On-Street Route:	0.24		
	Total:	3.89		
Special Features:				

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	3.65	Mile	$ 500,000	$ 1,825,000	
	Signs (8 per mile, each direction)	3.65	Mile	$ 2,800	$ 10,220	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	0.24	Mile	$ 2,800	$ 672	
	Shared lane markings (every 250' each direction)	0.24	Mile	$ 8,400	$ 2,016	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	-	EA	$ 4,000	$ -	
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	-	LO	$ 15,000	$ -	
	Crosswalk	-	EA	$ 2,500	$ -	
	Pedestrian Signal, new	1	EA	$ 150,000	$ 150,000	OBT crossing S of New Hampshire
	Add pedestrian features to existing signal	-	EA	$ 11,600	$ -	
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	2	EA	$ 300,000	$ 600,000	2 canal crossings
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	
	Minor trailhead (parking, kiosk only)	-	EA	$ 750,000	$ -	
	Rest area (water fountain, benches)	7	EA	$ 25,000	$ 175,000	2/mi on trail sections
	Intersection reconfiguration	1	EA	$ 350,000	$ 350,000	Mercy/Fairvilla
	Relocate light pole	1	EA	$ 5,000	$ 5,000	Mercy Dr south of WD Judge
				Sub-Total:	$ 3,118,000	
			Mobilization:	10%	$ 311,800	
			Maintenance of Traffic:	3%	$ 93,540	
			Landscaping:	5%	$ 155,900	
				Sub-Total:	$ 3,679,300	
			Contingency:	25%	$ 919,825	
				Total Construction Cost:	**$ 4,600,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 690,000	
				Total Project Cost:	**$ 5,290,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	44 (Alternative Route)		**Priority:**	Medium
Name:	Lake Lawne Trail		**Quadrant:**	West
Length (mi):	Off-Street Trail:	0.71		
	On-Street Route:	0.25		
	Total:	0.96		
Special Features:				

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	0.71	Mile	$ 500,000	$ 355,000	
	Signs (8 per mile, each direction)	0.71	Mile	$ 2,800	$ 1,988	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	0.25	Mile	$ 2,800	$ 700	
	Shared lane markings (every 250' each direction)	0.25	Mile	$ 8,400	$ 2,100	
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	-	EA	$ 4,000	$ -	
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	-	LO	$ 15,000	$ -	
	Crosswalk	-	EA	$ 2,500	$ -	
	Pedestrian Signal, new	-	EA	$ 150,000	$ -	
	Add pedestrian features to existing signal	-	EA	$ 11,600	$ -	
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	700	LF	$ 10,000	$ 7,000,000	bridge over Lake Lawne
	Prefab pedestrian bridge	-	EA	$ 300,000	$ -	
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	
	Minor trailhead (parking, kiosk only)	-	EA	$ 750,000	$ -	
	Rest area (water fountain, benches)	-	EA	$ 25,000	$ -	
	Intersection reconfiguration	-	EA	$ 350,000	$ -	
	Shift roadway curbing	-	LF	$ 100	$ -	
				Sub-Total:	$ 7,359,800	
			Mobilization:	10%	$ 735,980	
			Maintenance of Traffic:	3%	$ 220,794	
			Landscaping:	5%	$ 367,990	
				Sub-Total:	$ 8,684,600	
			Contingency:	25%	$ 2,171,150	
				Total Construction Cost:	**$ 10,860,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 1,629,000	
				Total Project Cost:	**$ 12,490,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	46		**Priority:**	High
Name:	Downtown Urban Bikeways		**Quadrant:**	North
Length (mi):	Off-Street Trail:	0.00		
	On-Street Route:	2.80		
	Total:	2.80		
Special Features:				

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	-	Mile	$ 500,000	$ -	
	Signs (8 per mile, each direction)	-	Mile	$ 2,800	$ -	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	2.80	Mile	$ 2,800	$ 7,840	
	Shared lane markings (every 250' each direction)	0.88	Mile	$ 8,400	$ 7,392	Washington; Jefferson; Weber; Magnolia S of Jefferson
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	-	EA	$ 4,000	$ -	
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	-	LO	$ 15,000	$ -	
	Crosswalk	-	EA	$ 2,500	$ -	
	Pedestrian Signal, new	1	EA	$ 150,000	$ 150,000	PHB at Magnolia/Weber
	Add pedestrian features to existing signal	13	EA	$ 11,600	$ 150,800	Bike signal heads (post mount): 6 on Orange Ave, 7 on Rosalind/Magnolia Ave
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	-	EA	$ 300,000	$ -	
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	
	Minor trailhead (parking, kiosk only)	-	EA	$ 750,000	$ -	
	Rest area (water fountain, benches)	-	EA	$ 25,000	$ -	
	Intersection reconfiguration	-	EA	$ 350,000	$ -	
	Mill & resurface 4-lane roadway	1.92	Mile	$ 1,035,100	$ 1,987,392	
				Sub-Total:	$ 2,303,500	
			Mobilization:	10%	$ 230,350	
			Maintenance of Traffic:	8%	$ 184,280	
			Landscaping:	5%	$ 115,175	
				Sub-Total:	$ 2,833,400	
			Contingency:	25%	$ 708,350	
				Total Construction Cost:	**$ 3,550,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 532,500	
				Total Project Cost:	**$ 4,090,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate

Trail ID:	46		**Priority:**	High
Name:	Downtown Urban Bikeways		**Quadrant:**	North
Length (mi):	Off-Street Trail:	0.00		
	On-Street Route:	2.80		
	Total:	2.80		
Special Features:	If restriping done as part of a routine maintenance project			

	Element	Qty.	Unit	Unit Cost	Total Cost	Remarks
Off-Street Trail:	Trail (12')	-	Mile	$ 500,000	$ -	
	Signs (8 per mile, each direction)	-	Mile	$ 2,800	$ -	
	Boardwalk (12')	-	Mile	$ 2,200,000	$ -	
On-Street Route:	Signs (8 per mile, each direction)	2.80	Mile	$ 2,800	$ 7,840	
	Shared lane markings (every 250' each direction)	0.88	Mile	$ 8,400	$ 7,392	Washington; Jefferson; Weber; Magnolia S of Jefferson
	Buffered Bike Lane	-	Mile	$ 163,900	$ -	
Drainage Elements:	Box culvert, precast (4' x 4')	-	LF	$ 200	$ -	
	Drainage inlet structure modification	-	EA	$ 4,000	$ -	
	Regrade pond bank or canal	-	LF	$ 100	$ -	
	Cross drain	-	EA	$ 3,000	$ -	
Traffic Elements:	RRFB	-	LO	$ 15,000	$ -	
	Crosswalk	-	EA	$ 2,500	$ -	
	Pedestrian Signal, new	1	EA	$ 150,000	$ 150,000	PHB at Magnolia/Weber
	Add pedestrian features to existing signal	13	EA	$ 11,600	$ 150,800	Bike signal heads (post mount): 6 on Orange Ave, 7 on Rosalind/Magnolia Ave
	Median island (12' wide, 50' long)	-	EA	$ 4,400	$ -	
Other Elements:	Pedestrian overpass	-	LF	$ 10,000	$ -	
	Prefab pedestrian bridge	-	EA	$ 300,000	$ -	
	Major trailhead (complete amenities)	-	EA	$ 1,500,000	$ -	
	Minor trailhead (parking, kiosk only)	-	EA	$ 750,000	$ -	
	Rest area (water fountain, benches)	-	EA	$ 25,000	$ -	
	Intersection reconfiguration	-	EA	$ 350,000	$ -	
	Mill & resurface 4-lane roadway	-	Mile	$ 1,035,100	$ -	
				Sub-Total:	$ 316,100	
			Mobilization:	10%	$ 31,610	
			Maintenance of Traffic:	8%	$ 25,288	
			Landscaping:	5%	$ 15,805	
				Sub-Total:	$ 388,900	
			Contingency:	25%	$ 97,225	
				Total Construction Cost:	**$ 490,000**	
			Design + Construction Engineering Inspection (CEI):	15%	$ 73,500	
				Total Project Cost:	**$ 570,000**	

City of Orlando Primary Bicycle Routes Study - Preliminary Cost Estimate
Other Corridors Not Studied

Trail ID	Name	Length (mi)	Quadrant	Screening Level	Total Cost	Source	Comment
1	N-S Trail, OBT/All American to Maitland Blvd	2.91	West	---	$ 3,903,000	3	Outside City boundaries
13	Avalon Trail	16.30	East	---	$ 15,700,000	4	Included in Orange Co Trails Master Plan
16, 19	Azalea Park Trail	7.50	East	---	$ 9,250,000	4	Included in Orange Co Trails Master Plan
20	Vista East Trail, SR 528 to Dowden Rd	2.41	South	---	$ 3,234,000	3	Implement trails via Bal Bay / Randal Park master plans
21	Randall Johnson Trail Loop, SR 528 to Dowden Rd	4.62	South	---	$ 6,192,000	3	Implement trails via Bal Bay / Randal Park master plans
22	Lake Nona Gas Easement Trail, E of Narcoossee Rd	1.20	South	---	$ 1,604,000	3	30% design plans already developed
25	Dowden Rd-Lake Nona Connector Trail	2.85	South	---	$ 3,817,000	3	To be developed by GOAA/Lake Nona
26	Split Oak Forest Trail, E of Narcoossee Rd	4.38	South	---	$ 5,873,000	3	Outside City boundaries
27	Meadow Woods Trail	9.50	South	---	$ 17,150,000	4	Included in Orange Co Trails Master Plan
30	Fairgreen Street Trail	1.25	North	---	$ 1,679,000	3	To be incorporated as part of proposed roadway
31	OUT/Gertrudes Walk, Amelia to Washington	0.49	North	---	$ 1,600,000	1	LYNX design project
32	OUT, SR 50 Bridge	0.40	North	---	$ 9,196,000	2	City design-build project
35	Cady Way Fashion Square Connection	0.22	North	---	$ 300,000	3	Trail completion is development condition
36	Andes Ave Trail, Lake Underhill Path to Fairgreen St	1.53	East	---	$ 2,054,000	3	To be developed by GOAA
39	E-W Corridor (Sand Lake Rd), Boggy Creek Rd to Shingle Creek Tr	6.89	South	---	$ 9,237,000	3	Almost entirely outside City boundaries
41	OIA Intermodal Terminal Connector Trail	3.86	South	---	$ 5,177,000	3	To be developed by GOAA
43	East Airfield Perimeter Trail	3.79	South	---	$ 5,081,000	3	To be developed by GOAA
45	Boggy Creek Rd Trail, Tradeport Dr to Meadow Woods Tr	3.85	South	---	$ 5,160,000	3	To be developed by GOAA
Total					**$ 106,207,000**		

Sources:

1. http://www.golynx.com/corporate-info/what-we-are-working-on/lynx-orlando-trail.stml
2. FY 2014/15-2018-19 Orlando Urban Area Transportation Improvement Program, MetroPlan Orlando, adopted July 9, 2014
3. Generalized cost per mile of trail design and construction: $1,340,000, based on average cost per mile for preferred route trail projects, HDR.
4. Orange County Trails Master Plan, August 2012.

Appendix B: Existing Trail Systems Maps

BIKE ORLANDO

SOUTHEAST TRAIL MAP



LEGEND

- BIKE CORRAL
- BIKE SHOP
- FIRE STATION
- HOSPITAL
- RESTROOMS
- BIKE SELF-REPAIR STATION
- SUNRAIL STATION
- TRAIL HEAD
- PARK SPACE
- SCHOOL

TRAIL

Most comfortable for cyclists of all ages and abilities.

BIKE LANE

A painted bike lane typically located between a parking lane and a moving vehicle lane, or between a sidewalk and a moving vehicle lane.

ON STREET ROUTE

People who are cycling share the roadway with motor vehicles on relatively quiet neighborhood streets.

SHARROW ROUTE

Roadway corridor marked with shared lane symbols to make motorists aware of cyclists in the travel lane.

MAIN STREET DISTRICTS

528
CARGO RD
HEINTZELMAN BLVD
ORLANDO INTERNATIONAL AIRPORT
NARCOOSSEE RD
DOWDEN RD
417
EAST PARK LAKE NEIGHBORHOOD PARK
LAKE NONA TRAIL
NORTHLAKE PARK YMCA
WEWAHOOTEE RD
MOSS PARK RD
LAKE NONA
BUCK LAKE
RED LAKE
NORTH SHORE AT LAKE HART
LAKE NONA BLVD
MUD LAKE
LAKE WHIPPOORWILL
BOGGY CREEK RD
TAVISTOCK LAKES BLVD
LAUREATE BLVD
LAKE HART
MOSS PARK
SPLIT OAK FOREST
SOUTH LAKE COMMUNITY PARK

BIKE ORLANDO

SOUTHWEST TRAIL MAP

LAKE HIAWASSEE
RALEIGH ST
435
LAKE MANN
COLUMBUA ST
VALENCIA WEST CAMPUS
KIRKMAN RD
LAKE FRAN BIKE TRAIL
LAKE FRAN
RAVENALL PARK
CLEAR LAKE
METROWEST BLVD
SHINGLE CREEK TRAIL
DR. JAMES R. SMITH NEIGHBORHOOD CENTER
EAGLE NEST PARK
L.B. MCLEOD RD
BILL FREDERICK PARK AT TURKEY LAKE
SHINGLE CREEK TRAIL
TURKEY LAKE
S JOHN YOUNG PKWY
VINELAND RD
CONROY WINDERMERE RD
CONROY RD
MILLENIA BLVD
SHADOW BAY PARK
LAKE CRANE
MALL AT MILLENIA
VINELAND RD
S KIRKMAN RD
UNIVERSAL ORLANDO
LAKE MARISHA
PRIME OUTLET
OAK RIDGE RD
DR. PHILIP BLVD
TURKEY LAKE RD

LEGEND

- BIKE CORRAL
- BIKE SHOP
- FIRE STATION
- HOSPITAL
- RESTROOMS
- BIKE SELF-REPAIR STATION
- SUNRAIL STATION
- TRAIL HEAD
- PARK SPACE

TRAIL

Most comfortable for cyclists of all ages and abilities.

BIKE LANE

A painted bike lane typically located between a parking lane and a moving vehicle lane, or between a sidewalk and a moving vehicle lane.

ON STREET ROUTE

People who are cycling share the roadway with motor vehicles on relatively quiet neighborhood streets.

SHARROW ROUTE

Roadway corridor marked with shared lane symbols to make motorists aware of cyclists in the travel lane.

MAIN STREET DISTRICTS

BIKE ORLANDO

CYCLING IN ORLANDO

COLLEGE PARK
IVANHOE VILLAGE
AUDUBON PARK GARDEN DISTRICT
MILLS 50
MILK DISTRICT
ORLANDO EXECUTIVE AIRPORT
CHURCH STREET
THORNTON PARK
DOWNTOWN SOUTH

W WINTER PARK ST
EDGEWATER DR
E KING ST
E ROLLINS ST
ORLANDO URBAN TRAIL
NORFOLK RD
LAKE SHORE DR
W PRINCETON ST
E PRINCETON ST
FORMOSA AVE
W YALE ST
ALDEN RD
N ORANGE AVE
N MILLS AVE
CORRINE DR
NW IVANHOE BLVD
N WESTMORELAND DR
VIRGINIA DR
LAKEVIEW ST
GASTON EDWARDS TRAIL
LAKE HIGHLAND DR
N FERN CREEK AVE
N BUMBY AVE
BUMBY TRAIL
CADY WAY TRAIL
COY DR
E MARKS ST
HIGHLAND AVE
ILLINOIS ST
W COLONIAL DR
E COLONIAL DR
W CONCORD ST
E CONCORD ST
N MAGNOLIA AVE
SUMMERLIN AVE
W AMELIA ST
E AMELIA ST
WESTMORELAND TRAIL
MAGUIRE BLVD
CREATIVE VILLAGE
E LIVINGSTON ST
W ROBINSON ST
E ROBINSON ST
S WESTMORELAND DR
W CENTRAL BLVD
E CENTRAL BLVD
S ORANGE AVE
N ROSALIND AVE
N THORNTON AVE
S BROWN AVE
S BUMBY AVE
PRIMROSE DR
N CRYSTAL LAKE DR
LAKE UNDERHILL PATH
GERTRUDES WALK
W CHURCH ST
E CHURCH ST
E JACKSON ST
W SOUTH ST
W ANDERSON ST
E ANDERSON ST
LONG ST
408
W GORE ST
E GORE ST
S PARRAMORE AVE
S DIVISION AVE
DELANEY AVE
CHEROKEE DR
DELLWOOD DR
COLUMBIA ST
BRIERCLIFF DR
CURRY FORD RD
S CRYSTAL LAKE DR
LAKE COMO CIR

LAKE SUE
LAKE ESTELLE
ORLANDO LOCH HAVEN PARK
LAKE ROWENA
LAKE FORMOSA
LEU GARDENS
LAKE IVANHOE
LAKE ADAIR
LAKE CONCORD
LAKE HIGHLAND
LAKE DRUID
LAKE DRUID PARK MOUNTAIN BIKE AREA
PARK LAKE
LAKE DOT
LAKE EOLA PARK
MAYOR CARL T. LANGFORD PARK
ORLANDO CITY SOCCER STADIUM
AMWAY CENTER
DR. PHILLIPS CENTER
LAKE LUCERNE
GREENWOOD URBAN WETLANDS
GREENWOOD CEMETARY
LAKE DAVIS
LAKE COPELAND
LAKE LANCASTER

LEGEND

- BIKE CORRAL
- BIKE SHOP
- FIRE STATION
- HOSPITAL
- RESTROOMS
- BIKE SELF-REPAIR STATION
- SUNRAIL STATION
- TRAIL HEAD
- PARK SPACE

TRAIL

Most comfortable for cyclists of all ages and abilities.

BIKE LANE

A painted bike lane typically located between a parking lane and a moving vehicle lane, or between a sidewalk and a moving vehicle lane.

ON STREET ROUTE

People who are cycling share the roadway with motor vehicles on relatively quiet neighborhood streets.

SHARROW ROUTE

Roadway corridor marked with shared lane symbols to make motorists aware of cyclists in the travel lane.

MAIN STREET DISTRICTS

UPDATED 7/19

Appendix C: Equity Analysis



ORLANDO BIKE MASTER PLAN

Equity Goals + Action Plan

Equitable Cities LLC

2503 Vetter Drive
Franklin Park, NJ 08823

Phone: (908) 514-9300
Email: charlesbrown@equitablecities.com

EQUITABLE CITIES

CHAPTER 1: WHY

Why Equity?

The City of Orlando is one of the fastest growing and most racially and ethnically diverse cities in all of America. With the overwhelming majority (65.8%) of the City's 280,258 residents identifying as racial minorities, Orlando is one of the few midsize majority-minority cities in the country. However, the significant growth the city has witnessed over the past few decades has comes with many cultural, social, political, economic, and health challenges. One of the main challenges the city, region and state has faced is the safety, protection, and equitable mobility of pedestrians and bicyclists on its roadways.

According to Smart Growth America's 2019 Dangerous by Design Report, the Orlando-Kissimmee-Sanford Metro Area is ranked number #1 in the country with 656 pedestrians being struck and killed on roadways in the metro area. This unfortunately has resulted in annual rate of pedestrian fatalities per 100,000 people of 2.82 and pedestrian danger index of 313.3, both numbers significantly higher than the national average of 1.55 and 55.3. Similarly, the League of American Bicyclists 2019 Benchmarking Report ranked the state of Florida fourth nationally with 27.3% of bicyclist and walking fatalities as a percentage of all traffic fatalities for 2012 – 2016.

Why Equity? A focus on equity will ensure that strategic investments in engineering, education, and enforcement go towards the safety and protection of all people in Orlando whether traveling by bike, by foot, by car, or by transit. Equity is the presence of justice and fairness within the plans, procedures, processes, and distribution of resources by institutions or systems. Equity requires an understanding of the underlying or root causes of inequalities and oppression within our society and is achieved when people and groups obtain what they need to enjoy full, healthy lives. However, equitable outcomes for marginalized populations of people and historically and systemically excluded groups remain elusive throughout the country at the national, state, and city level.

More importantly, these finding illustrates the desperate need to prioritize and institutionalize equity with Orlando's plans, programs, processes, and overall distribution of resources to ensure that safe infrastructure is built and maintained for the most vulnerable segments of the city's population.

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CHAPTER 2: EQUITY ANALYSIS

One of the primary goals of the Orlando Bike Plan Update is to develop a bicycle network that serves all areas of the city, including areas that have a high density of historically undeserved population and relatively few bicycle facilities. In order to measure the distribution and correlation of underserved populations and bicycle facilities, this report implemented and expanded on an equity analysis methodology and concept established in the Seattle Bicycle Master Plan from 2014. For purposes of the analysis, the following socio-economic indicators from the 2016 American Community Survey (ACS) define underserved populations:

- Percentage of population below poverty level
- Percentage of minority population
- Percentage of zero-vehicle households
- Percentage of population age 65 or above
- Percentage of population 18 or below
- Percentage of means of transportation to work other than personal motor vehicle
- Percentage of population with limited English proficiency

This chapter begins with maps highlighting the spatial distribution of each socio-economic indicator at the census block group in the City, followed by charts which illustrate the miles of signed bike routes, on-street bike lanes, and off-street bicycle facilities as well as the total miles of existing bicycle facilities per square mile by each socio-economic indicator at the census block group level in the City. The chapter ends with the introduction and spatial distribution of a bicycle equity composite score, followed by a map highlighting areas at the block group level based on “levels of bicycle service,” i.e., high and low service areas.

PERSONS LIVING IN POVERTY

Figure 1 shows the spatial distribution of persons living in poverty at the block group level in the City of Orlando. The percentages of persons living in poverty are shown in quintiles and range from <6% to >25%. The lighter red colors in the map depict smaller concentrations and the darker red colors depict higher concentrations of persons living in poverty. The spatial distribution of persons living in poverty is equally dispersed throughout the city. However, the places with the highest concentrations of poverty (i.e., >25%) are located west of Interstate 4 and far east of the city along County Road 436/S. Semoran Boulevard—namely Commissioner Districts 2, 3, 5 and 6. Districts 1 and 4 have the lowest concentration of persons living in poverty in the city.

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Figure 1: Percentage of Persons Living in Poverty at the Block Group Level, Orlando, FL, 2019.

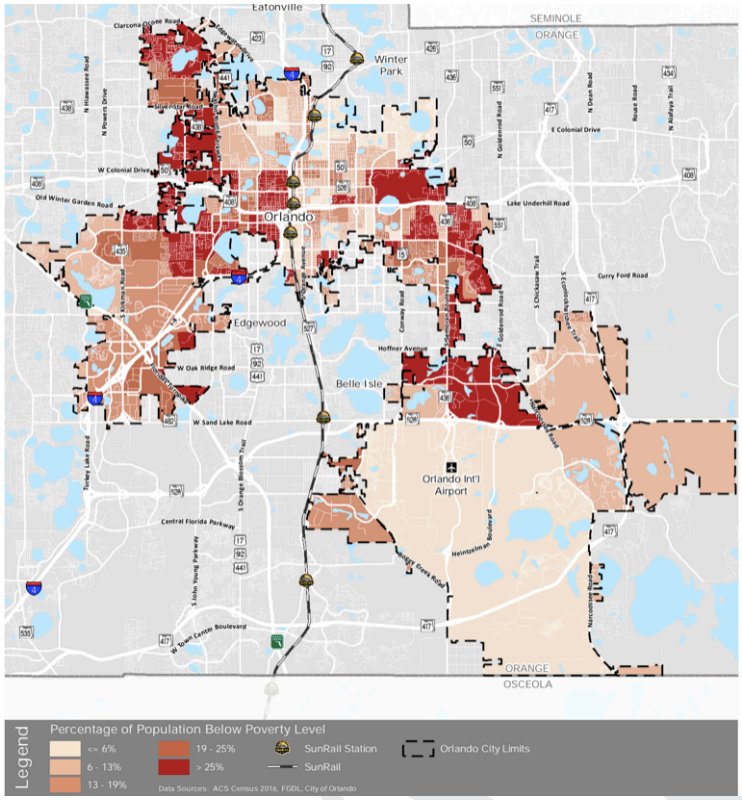


Figure 2 shows the miles of signed bike routes, on-street bike lanes, and off-street bicycle facilities, as well as the total miles of existing bicycle facilities per square mile by the percentage of persons living in poverty at the block group level in the City of Orlando. Places with higher concentrations of persons living in poverty (i.e., >13%) have more total miles of existing bicycle facilities per square mile and miles of on-street bike lanes per square mile than the average and places with lower concentrations. Places with lower concentrations of persons living in poverty (i.e., <13%) have fewer miles of signed routes per square mile and off-street facilities per square mile. It is also important to note however that places with >25% of persons living in poverty have half the average (i.e., 0.22) number of miles of off-street bicycle facilities (trails) than its counterparts. The average number of miles of off-street bicycle facilities is 0.45.

Figure 2. Miles of Bicycle Facilities Per Square Mile by Percentage of Person Living in Poverty, Orlando, FL, 2019.



RACIAL MINORITIES

Figure 3 shows the spatial distribution of racial minorities at the block group level in the City of Orlando. The percentages of racial minorities at the block group level are shown in quintiles and range from <16% to >78%. The lighter purple colors in the map depict smaller concentrations and the darker purple colors depict higher concentrations of racial minorities at the block group level. The spatial distribution of racial minorities at the census block group level is equally dispersed throughout the city. The places with the highest concentrations of poverty (i.e., >25%) are located west of Interstate 4 and east of the city along County Road 436/S. Semoran Boulevard—namely Commissioner Districts 2, 3, 5 and 6. Districts 1 and 4 have the lowest concentration of persons living in poverty in the city. This finding is consistent with the above map on persons living in poverty (see Figure 1) and research noting the correlation between race/ethnicity and income in the United States.

Figure 3. Percentage of Racial Minorities at the Block Group Level, Orlando, FL, 2019.

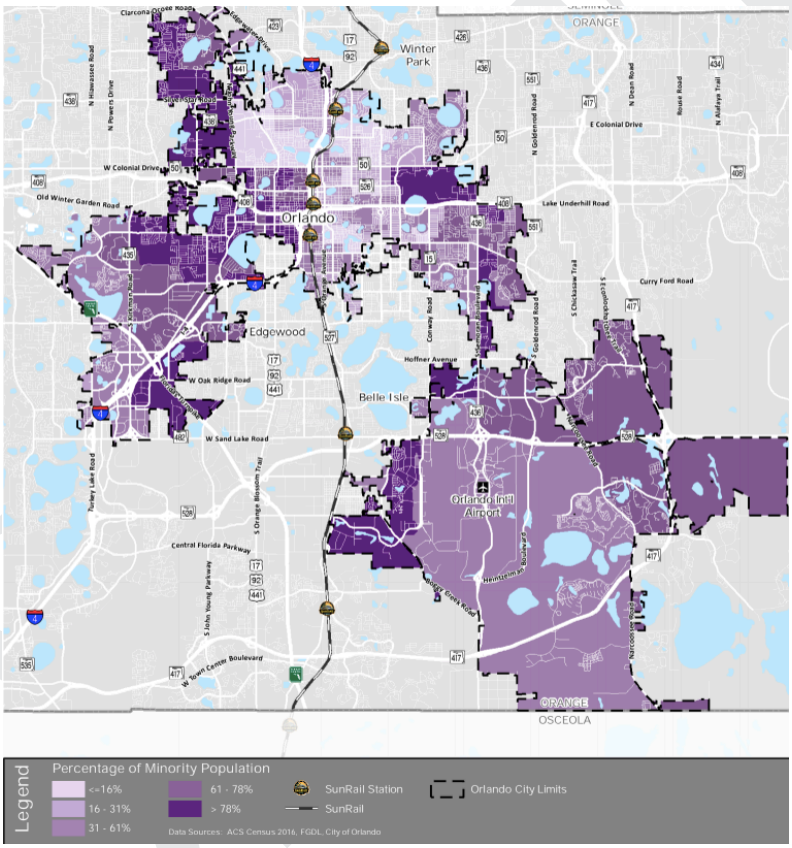


Figure 4 shows the miles of signed bike routes, on-street bike lanes, and off-street bicycle facilities, as well as the total miles of existing bicycle facilities per square mile by the percentage of racial minorities at the block group level in the City of Orlando. Places with lower concentrations of racial minorities (<31%) have more total miles of existing bicycle facilities per square mile, miles of signed bike routes per square mile, and miles off-street bicycle facilities per square mile than the average and places with higher concentrations of racial minorities. Additionally, in most cases, places with higher concentrations of minorities (i.e., >31%) have less than the average number of miles of signed routes per square mile, miles on on-street, miles of off-street facilities per square mile, and total miles of bicycle facilities per square miles than their counterparts.

Figure 4. Miles of Bicycle Facilities Per Square Mile by Percentage of Racial Minorities at the Block Group Level, Orlando, FL, 2019.



ZERO-VEHICLE HOUSEHOLDS

Figure 5 shows the spatial distribution of the percentage of zero-vehicle households at the block group level in the City of Orlando. The percentages of zero-vehicle households at the block group level are shown in quintiles and range from <2% to >12%. The lighter green colors in the map depict smaller concentrations and the darker green colors depict higher concentrations of zero-car households at the block group level. The spatial distribution of zero-car households at the census block group level is equally dispersed throughout the city, with the highest concentrations of poverty (i.e., >25%) located west of Interstate 4 and far east of the city along County Road 436/S. Semoran Boulevard. The highest concentration of zero-households is located in Commissioner Districts 2, 3, 5 and 6. Districts 1 and 4 have the lowest concentration of zero-car households in the city.

Figure 5. Percentage of Zero-Car Households Per Square Mile at the Block Group Level, Orlando, FL, 2019.

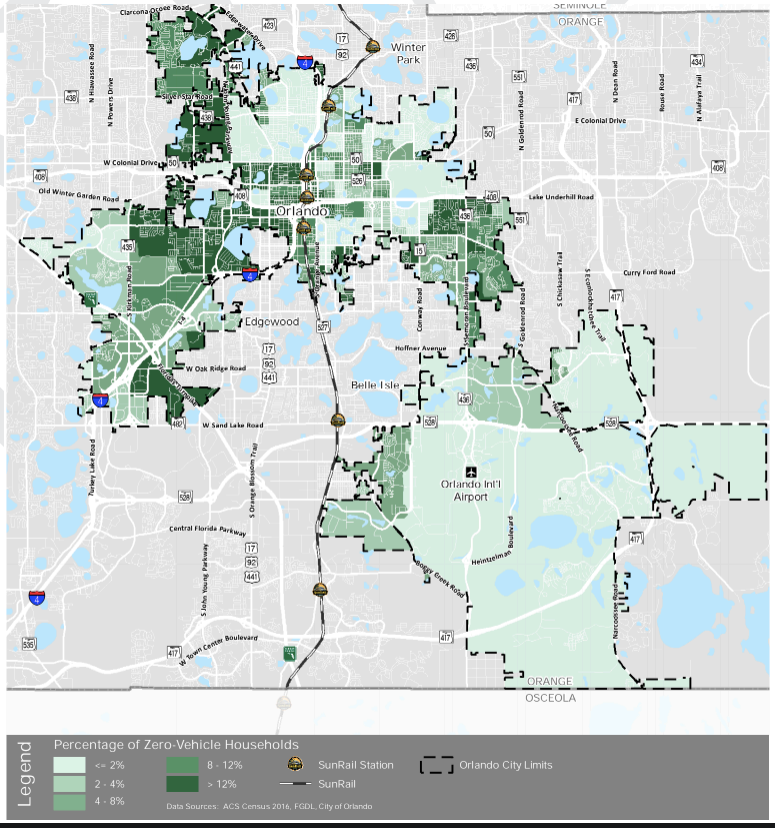
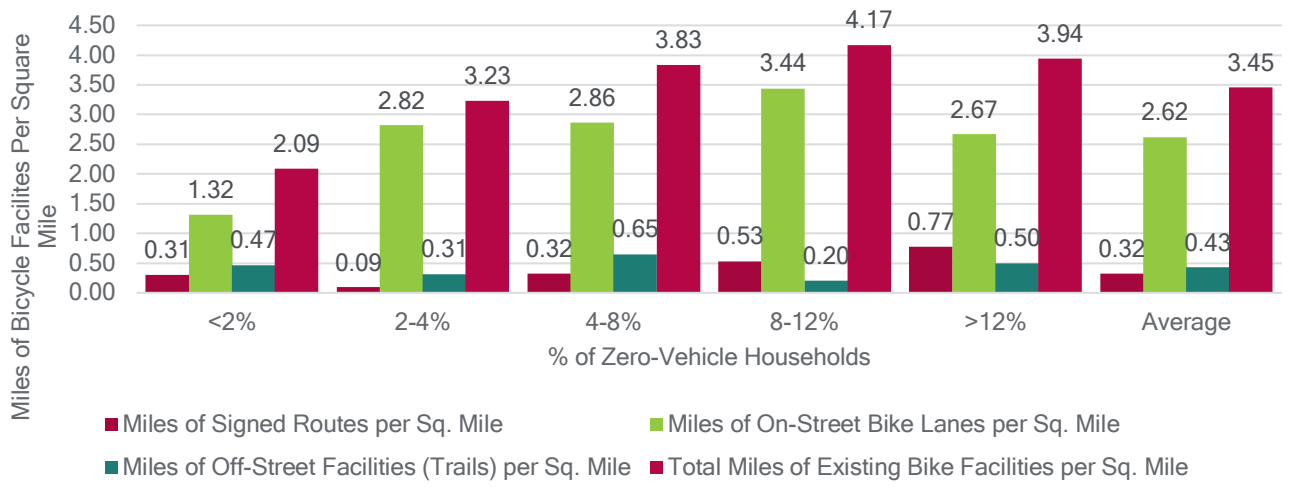


Figure 6 shows the miles of signed bike routes, on-street bike lanes, and off-street bicycle facilities as well as the total miles of existing bicycle facilities per square mile by the percentage of zero-vehicle households at the block group level in the City of Orlando. Unlike the results shown in Figures 3 and 5, places with higher concentrations of zero-car households (>8%) have more total miles of existing bicycle facilities per square mile than the average and those with lower concentrations. Places with percentages of zero-vehicle households between 2-4% and 8-12% have fewer miles of off-street bike routes per square mile than the average and all other categories. Similarly, places with lower concentrations of zero-vehicle households (<4%) have fewer miles of signed bike routes than the average and all other categories. It is also important to note that places with <2% of zero-vehicle households have fewer miles of on-street bike lanes per square mile than the average and all other categories. The miles of signed bike routes per square mile in places with 2-4% of zero-vehicle households is 3.5 times fewer the average of 0.32.

Figure 6. Miles of Bicycle Facilities Per Square Mile by Percentage of Zero-Vehicle Households at the Block Group Level, Orlando, FL, 2019



POPULATION AGE 65 AND ABOVE

Figure 7 shows the spatial distribution of populations age 65 and above at the block group level in the City of Orlando. The percentages of population age 65 and above at the block group level range from <3% to >15%. The lighter brown colors depict smaller concentrations and the darker brown colors depict higher concentrations of populations age 65 and above at the block group level. Compared to the previous maps, the spatial distribution of population age 65 and above is by the far the most equally dispersed throughout the city and Commissioner Districts.

Figure 7. Percentage of Population Age 65 and Above at the Block Group Level, Orlando, FL, 2019.

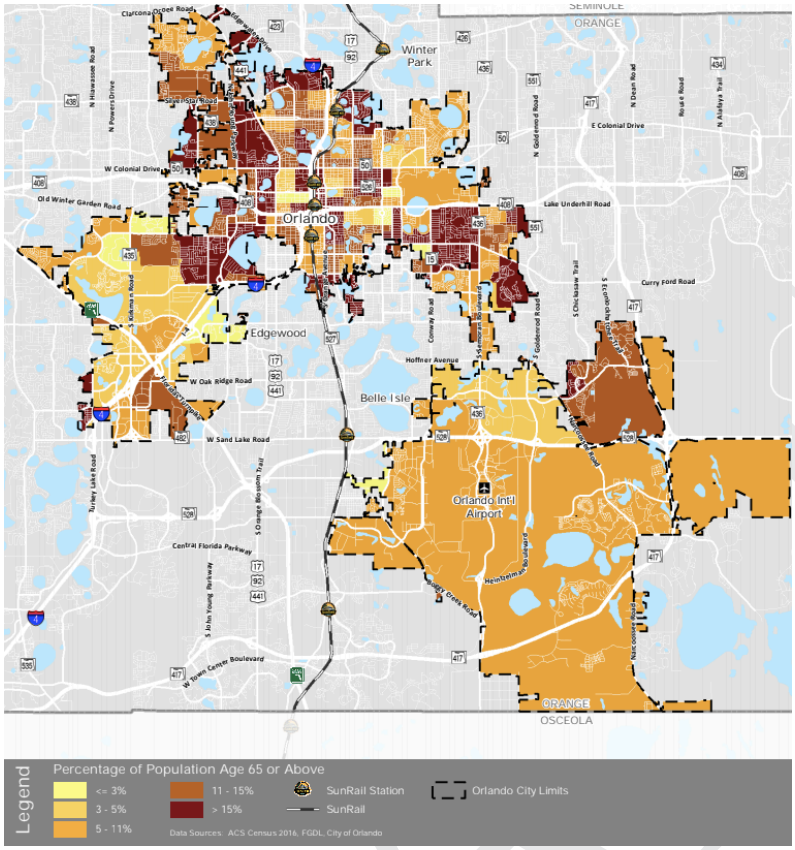
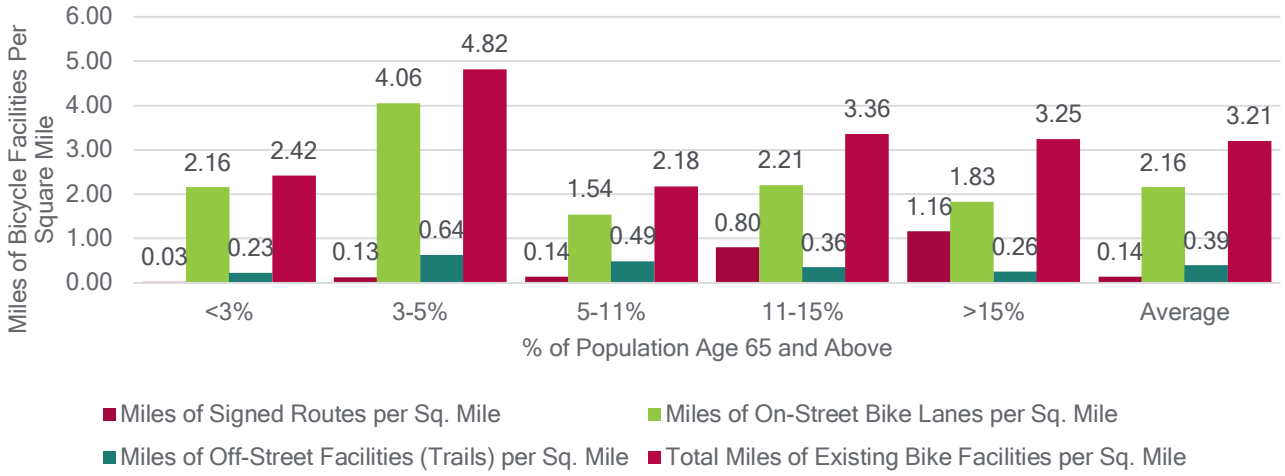


Figure 8 shows the miles of signed bike routes, on-street bike lanes, and off-street bicycle facilities as well as the total miles of existing bicycle facilities per square mile by the percentage of population age 65 and above at the block group level in the City of Orlando. With one exception, places with higher percentages of population age 65 and above have more miles of total miles of existing bicycle facilities per square mile and miles of signed bike routes per square mile than the average and places with lower concentrations. Places with lower concentrations of populations age 65 and above (<11%) have fewer totals miles of existing bicycle facilities per square mile than the average and all other categories.

Conversely, places with lower concentrations of populations age 65 and above (<5%) have more miles of on-street bike lanes per square mile than those with higher concentrations. Places with percentages of population age 65 and above between 5-11% and >15% have fewer miles of on-street bike lanes per square than the average and all other categories. Places with higher concentrations of populations age 65 and above have fewer miles of off-street bicycle facilities per square mile than the average and all other categories. This is an important finding considering population age 65 and above are more likely to rely on trails to ride their bicycles for exercise, social and recreational opportunities.

Figure 8. Miles of Bicycle Facilities Per Square Mile by Percentage of Populations Age 65 and Above, Orlando, FL, 2019.



POPULATION AGE 18 AND BELOW

Figure 9 shows the spatial distribution of the percentage of populations age 18 and below at the block group level in the City of Orlando. The percentages of populations age 18 and below at the block group level are shown in quintiles and range from <7% to >28%. The lighter pink colors in the map depict smaller concentrations and the darker pink colors depict higher concentrations of the percentages of populations age 18 and below at the block group level. The spatial distribution of populations age 18 and above at the census block group level is highly concentrated west of the city near N. John Young Parkway in District 3 and east of the city near the Orlando International Airport area in District 1. District 4 has the lowest concentration of population age 18 and below in the city.

Figure 9. Percentage of Population Age 18 and Below at the Block Group Level, Orlando, FL, 2019.

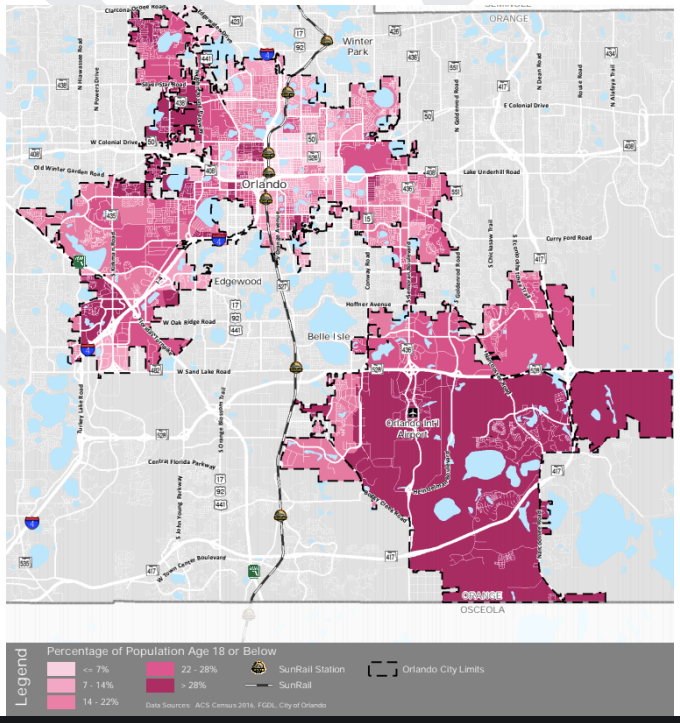
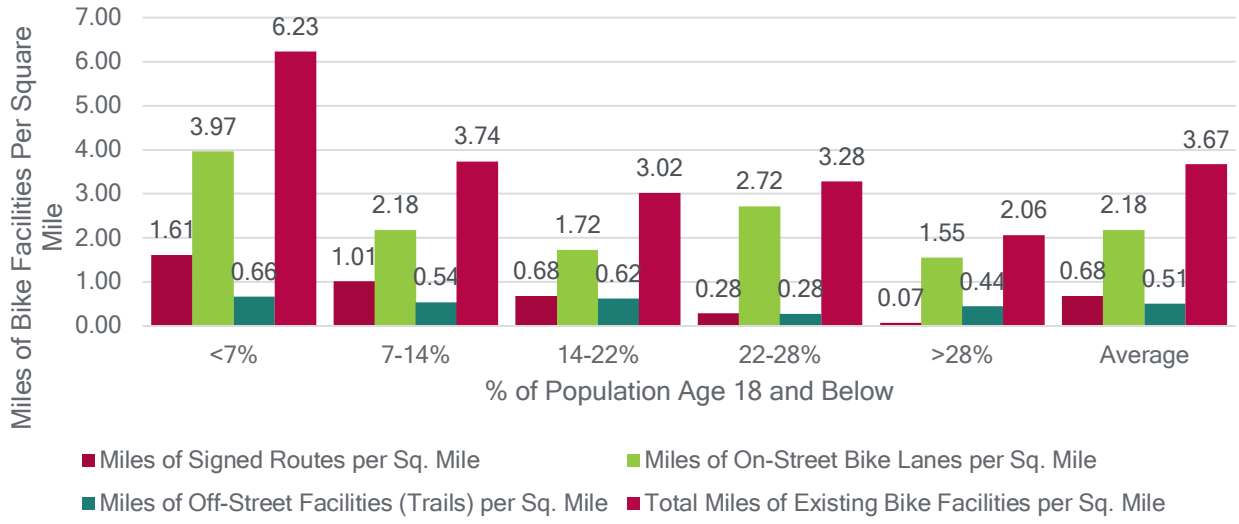


Figure 10 shows the miles of signed bike routes, on-street bike lanes, and off-street bicycle facilities as well as the total miles of existing bicycle facilities per square mile by the percentage of population age 18 and below at the block group level in the City of Orlando. With no exception, places with higher concentrations of populations age 18 and below have fewer miles of signed bike routes, on-street bike lanes, off-street bicycle facilities, and total miles of existing bicycle facilities per square miles than the average and all other categories. Also, without exception, places with <7% of population age 18 and below have more miles of signed bike routes, on-street bike lanes, off-street bicycle facilities, and total miles of existing bicycle facilities per square mile than the average and all other categories. In fact, places with <7% of population age 18 and below has 1.7 times more total miles of existing bicycle facilities than the average and three (3) times more total miles than places with >28% of population age 18 and below.

Figure 10. Miles of Bike Facilities Per Square Mile by Percentage of Population Below 18.



NON-AUTO COMMUTERS

Figure 11 shows the spatial distribution of the percentage of non-auto commuters at the block group level in the City of Orlando. The percentages of non-auto commuters at the block group level are shown in quintiles and range from <1% to >6%. The lighter orange colors in the map depict smaller concentrations and the darker orange colors depict higher concentrations of the percentages of non-auto commuters at the block group level. The spatial distribution of non-auto commuters at the census block group level is equally dispersed throughout the city. The highest concentrations of non-auto commuters (i.e., >6%) are located west of Interstate 4 in Commissioner Districts 3, 5 and 6 and east of the city along County Road 436/S. Semoran Boulevard in District 2.

Figure 11. Percentage of Non-Auto Commuters at the Block Group Level, Orlando, FL, 2019.

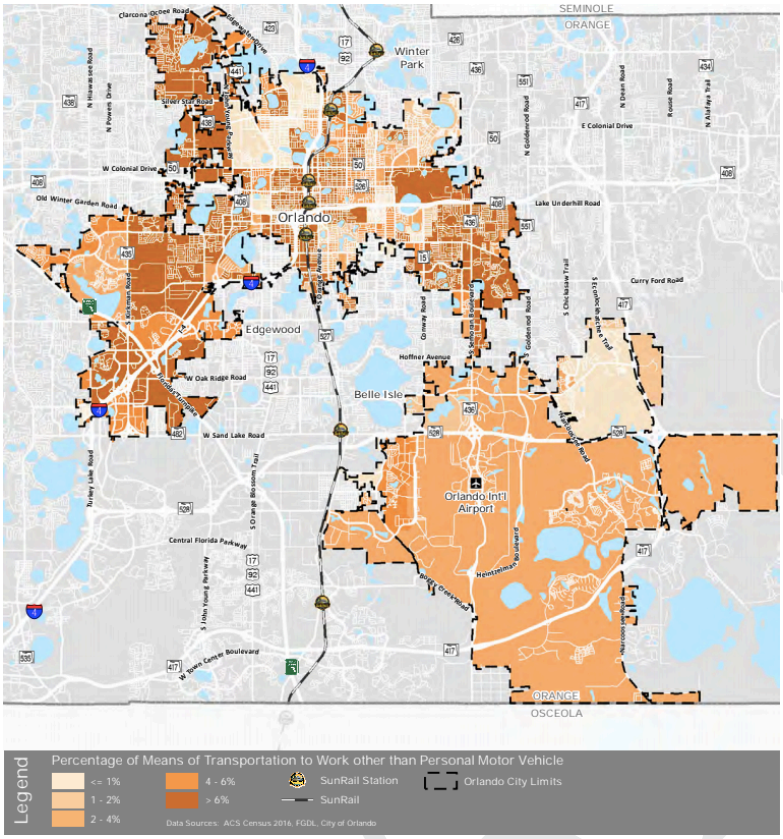
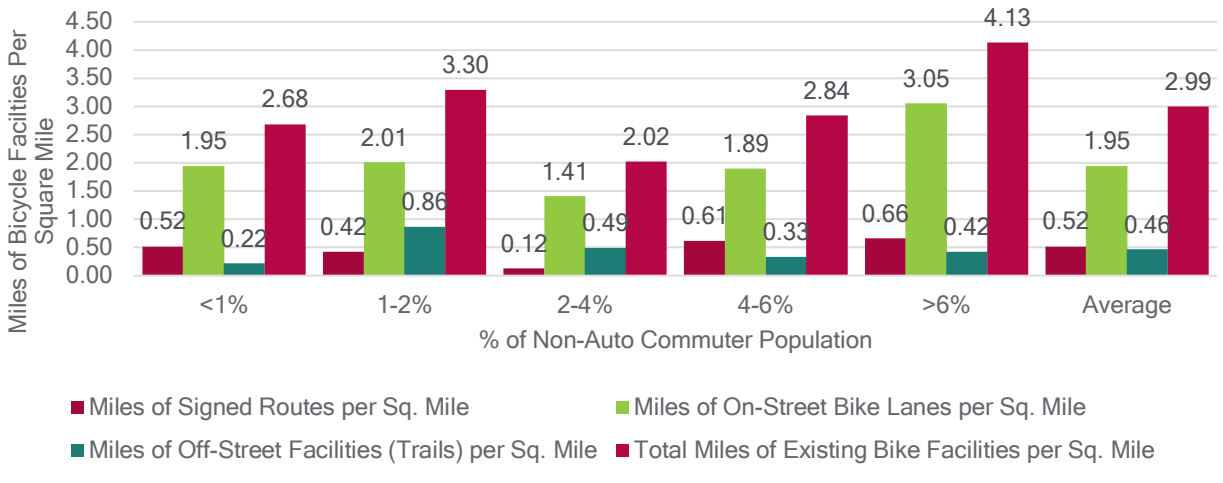


Figure 12 shows the miles of signed bike routes, on-street bike lanes, and off-street bicycle facilities as well as the total miles of existing bicycle facilities per square mile by the percentage of non-auto commuters at the block group level in the City of Orlando. Places with higher concentrations of non-auto commuters have more miles of signed bike routes per square mile, miles of on-street bike lanes per square mile, and total miles of existing bicycle facilities per square mile than the average and all other categories. Similarly, excluding places with non-auto commuter populations at <1%, places with higher concentrations of non-auto commuters have fewer miles of off-street facilities per square miles than the average and populations with non-auto commuters between 1-4%.

Figure 12. Miles of Bicycle Facilities Per Square Mile by Percentage of Non-Auto Commuter Population, Orlando, FL, 2019



LIMITED ENGLISH PROFICIENCY

Figure 13 shows the spatial distribution of the percentage of limited English proficiency populations (LEP) at the block group level in the City of Orlando. The percentages of LEP populations at the block group level are shown in quintiles and range from <4% to >19%. The lighter blue colors in the map depict smaller concentrations and the darker blue colors depict higher concentrations of the percentages of LEP populations at the block group level. The spatial distribution of LEP populations are for the most part located outside of downtown Orlando. The parts of the city with the highest concentrations of LEP populations (i.e., >19%) are located west of Interstate 4 along County Road 435/S. Kirkman Road in Commissioner Districts 6; east of the city along County Road 436/S. Semoran Boulevard in District 2; and southeast of the city in the general vicinity of the Orlando International Airport (OIA) near Narcoossee Road in District 1.

Figure 13. Percentage of Limited English Proficiency at the Block Group Level, Orlando, FL, 2019.

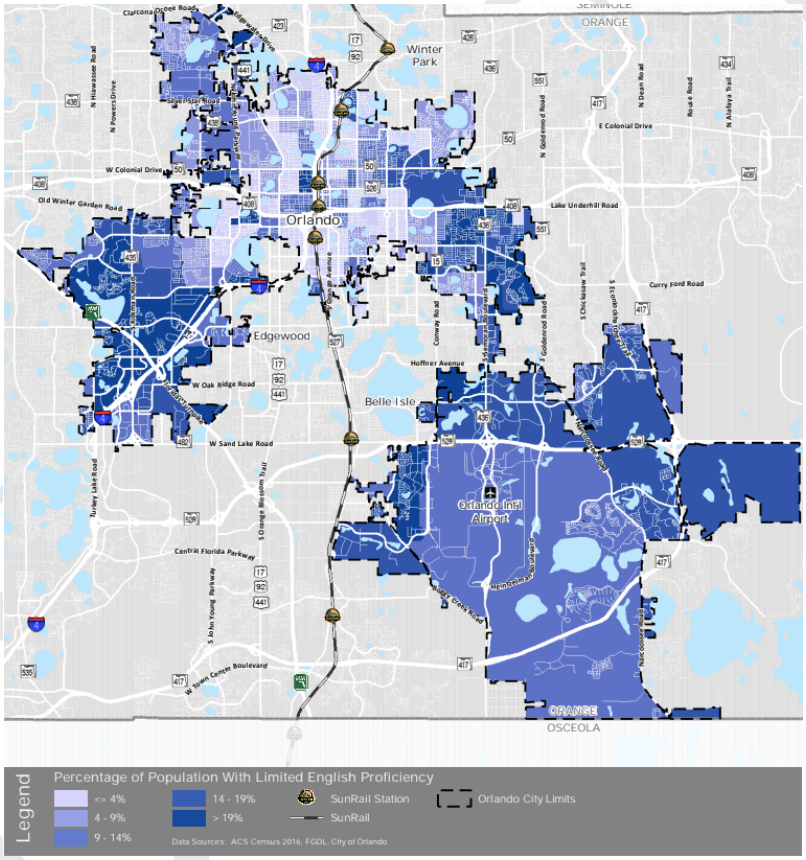
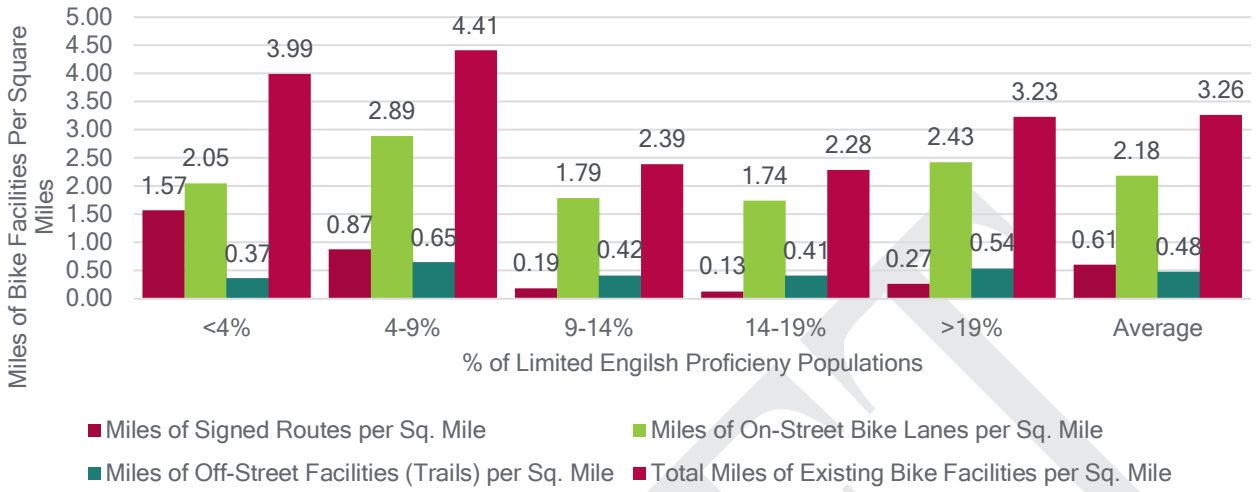


Figure 14 shows the miles of signed bike routes, on-street bike lanes, and off-street bicycle facilities as well as the total miles of existing bicycle facilities per square mile by the percentage of limited English proficiency populations (LEP) at the block group level in the City of Orlando. Places with higher concentrations of LEP populations (>9%) have fewer total miles of existing bike facilities per square mile than the average and places with lower concentrations of LEP populations (<9%). Places with LEP populations less than 4% and between 9-14% have fewer miles of on-street bike lanes per square mile and off-street bike facilities per square mile than the average and places with LEP populations between 4-9% and greater than 19%. Conversely, places with higher concentrations of LEP populations (>9%) have fewer miles of signed bike routes per square mile than the average and places with lower concentrations of LEP populations (<9%).

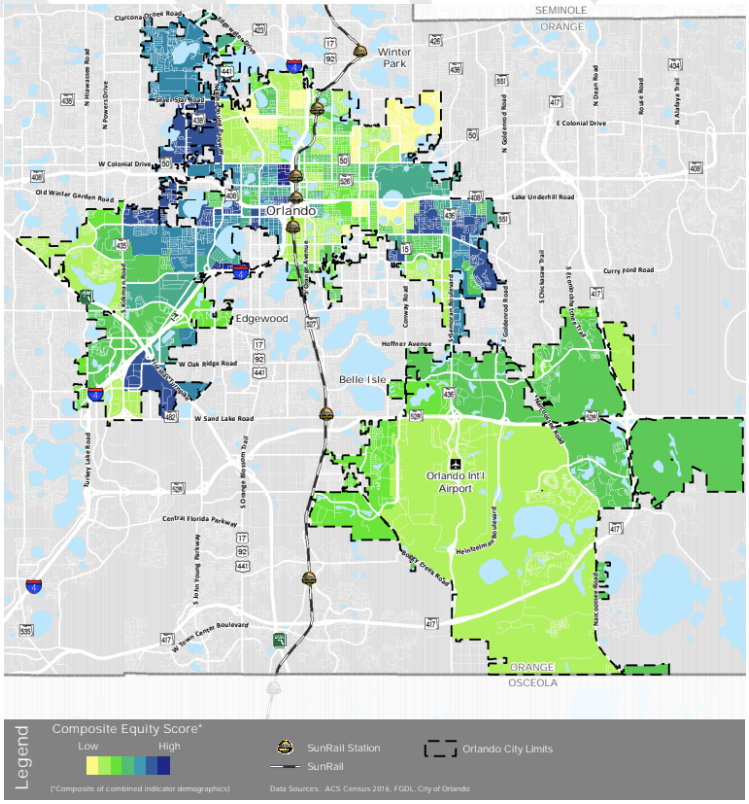
Figure 14. Miles of Bicycle Facilities Per Square Mile by Percentage of Limited English Proficiency Populations, Orlando, FL, 2019.



BICYCLE EQUITY COMPOSITE SCORE

Figure 15 shows the spatial distribution of bicycle equity composite scores at the block group level in the City of Orlando. The high equity score has a maximum possible score of seven (7) and a low equity score has a minimum possible score of zero (o). The high equity scores are shown in dark blue and low equity scores are in yellow. The locations with the highest equity scores are shown west of Interstate 4 between Silver Star Road, N. John Young Parkway and W. Colonial Drive, and east of downtown Orlando near S. Semoran Boulevard between Lake Underhill Road and Curry Ford. The locations with the lowest equity scores are east of Interstate 4 near downtown Orlando.

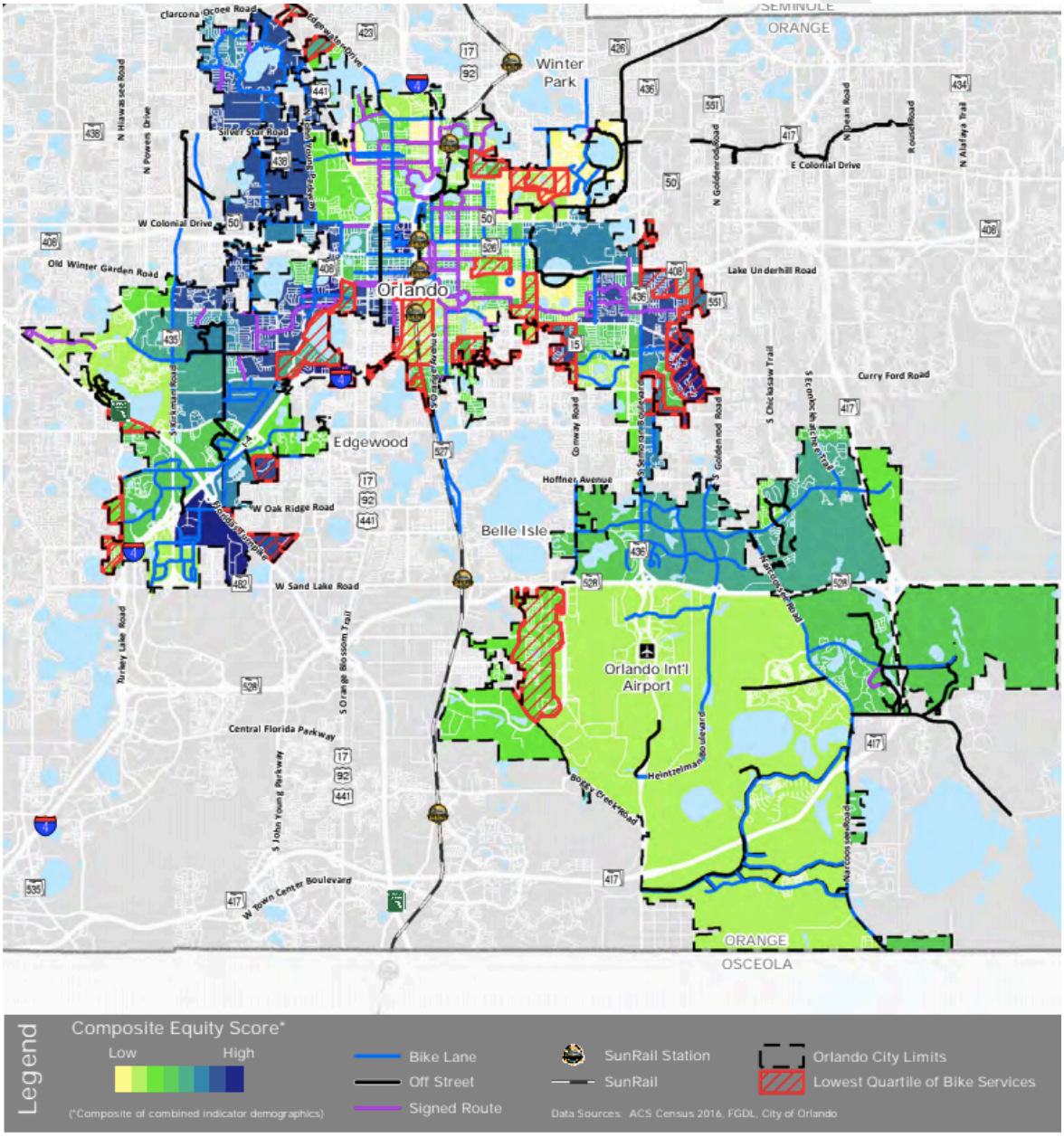
Figure 15. Bicycle Equity Composite Score, Orlando, FL, 2019.



BICYCLE LEVEL OF SERVICE

Figure 16 shows the spatial distribution of bicycle composite equity scores and levels of service at the block group level in the City. The distribution of bicycle facilities or "level of bicycle service" was calculated by dividing the total mileage of bicycle facilities in a census block group by the number of square miles in the census block group (bicycle facility miles/square miles). Block groups in the lowest quartile (lowest 25 percent) were considered to be "low service areas." The red hatches in the map below show census block groups with low bicycle service. In the context of equity, these areas of the city should be prioritized as bicycle investment areas to ensure equitable bicycle access and mobility throughout the city.

Figure 16. Bicycle Composite Score and Level of Service, Orlando, Fl, 2019.



CHAPTER 3: EQUITY GOALS + ACTION PLAN

Equity Goals

Equity is a foundational pillar across the Orlando Bike Master Plan. Below are six equity goals aimed at improving the safety, mobility and access of all Orlando residents and visitors.

EQUITY GOAL #1

Increase the rate of bicycling among Orlando's marginalized and historically and systemically excluded populations, disaggregated by race, religion, political or cultural group, age, gender, sexual preference or financial status.

EQUITY GOAL #2

Reduce the number and percentage of bicycle-related fatalities and moderate to serious injuries among Orlando's marginalized and historically and systemically excluded populations, disaggregated by race, religion, political or cultural group, age, gender, sexual preference or financial status.

EQUITY GOAL #3

Reduce the number and percentage of bicycle-related fatalities and moderate to serious injuries in areas identified as "low-service areas."

EQUITY GOAL #4

Institutionalize equity within the city's mobility, neighborhood, and land use plans, programs, policies, and processes with a specific emphasis on the eradication of systemic (i.e., institutional and structural) racism and discrimination.

EQUITY GOAL #5

Ensure the full and fair participation and engagement of Orlando's marginalized and historically and systemically excluded populations disaggregated by race, religion, political or cultural group, age, gender, sexual preference or financial status.

EQUITY GOAL #6

Increase bike infrastructure investments and maintenance in areas identified as "low-service areas."

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Equity Action Plan

The action items listed below were developed to ensure that all Orlando residents have safe and equitable access to the city's bikeway network and are not denied full and fair participation in transportation decision-making processes. For the purposes of this plan, and the protection of marginalized and historically and systemically excluded populations, the following nine equity variables have been included:

1. Race/ethnicity
2. Language
3. Geographic
4. Process/participation
5. Physical ability
6. Income
7. Gender
8. Cultural
9. Modal

ACTION #1: INSTITUTIONALIZE COMMITMENT TO EQUITY THROUGH THE ADOPTION OF A CITYWIDE RACIAL EQUITY ACTION PLAN *(RACIAL/ETHNIC EQUITY)*

Consider the adoption of a Racial Equity Action Plan to institutionalize the city's commitment to advancing racial equity throughout not just cycling but all its programs, processes, and policies. The Racial Equity Action Plan enforces and cements a collective vision of racial equity and aims to eradicate longstanding institutional and structural barriers to access and mobility for historically and systemically excluded populations due to their race, religion, political or cultural group, age, gender, or financial status.

Success metric: The adoption and implementation of a citywide Racial Equity Action Plan.

Responsibility: Orlando City Mayor and City Council

#2: FOSTER MORE EQUITABLE TREATMENT OF DIVERSE LANGUAGES IN THE PUBLIC SPHERE, COMMUNICATIONS AND MARKETING, AND PLANNING PROCESSES *(LANGUAGE EQUITY)*

Nearly half (47%) of Orlando children age 5-17 are persons with languages other than English spoken at home, and nearly 40% of adults age 18+ are persons who speak a language other than English at home. While Spanish is the second most commonly spoken language at home for children and adults (29.5% and 26.2%, respectively), the other languages spoken at home among adults are a diversity of languages of Indo-European and Asian/Islander origin.[i] Given this language diversity, it is important that all citywide communications and marketing take this into account when directly and indirectly engaging with its residents. Doing so would ensure language equity and remove barriers to obtaining information related to access and mobility (like cycling) for residents who speak languages other than English.

Success metric: Greater diversity in languages used in print / digital communications and marketing materials, as well as increases in non-English speaking residents attending and

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participating in public outreach and engagement events, including for project planning efforts related to cycling and other forms of mobility.

Responsibility: Communications and Marketing; Public Outreach and Engagement; Orlando City public engagement and outreach consultants

#3: PRIORITIZE STREET AND BIKEWAY INVESTMENTS, AND MAINTENANCE IN LOW-SERVICE AREAS *(RACIAL & SPATIAL EQUITY)*

The Low-Service areas are those that lack adequate bicycle facilities as compared to the rest of the city. To ensure equitable access and mobility for all residents, regardless of where they live in the city, it's imperative that investments in on-street, off-street, and signed bike routes and infrastructure be made in low-service areas.

Success metric: Increased investment and maintenance of streets and bikeways in low-service areas.

Responsibility: Orlando Department of Public Works and Department of Engineering, Traffic, and Transportation.

#4: ENSURE EQUITABLE POLICE ENFORCEMENT

Enforcement is a critical part of any and all successful bicycle planning and implementation to ensure the safety and protection of bicyclists from traffic and personal violence. However, given the history of distrust between marginalized communities and communities of color, it is imperative that the enforcement is equitable and non-discriminatory.

Success metric:

- Decreases in the number of civilian complaints against law enforcement

Responsibility: Orlando Police Department

#5: ENSURE THE FULL AND FAIR PARTICIPATION OF LOW-INCOME AND MINORITY COMMUNITIES IN THE TRANSPORATION DECISION-MAKING PROCESS *(PROCESS EQUITY)*

Public outreach and engagement are vital to ensuring the transportation system meets and addresses the collective needs and safety concerns of all Orlando residents. Additionally, Environmental Justice (EJ) Executive Order 12898 demands full and fair participation of low-income and minority populations throughout the entire transportation decision-making process. Given the history of systemically excluding certain populations from fully participating in transportation processes on the basis of their race, religion, and sexual preference, ensuring their full and fair participation is paramount.

Success metric: Participation of low-income and minority population in transportation decision-making processes

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Responsibility: Orlando Engineering, Traffic, and Transportation Department, and Division of City Planning

#6: DOCUMENT AND INCREASE MOBILITY AND ACCESS FOR THE ELDERLY AND PERSONS WITH DISABILITY *(ABILITY EQUITY)*

Orlando's transportation network presents unique challenges and opportunities for the elderly and persons with disabilities to safely access and move throughout the city whether for leisure, recreation, or commuting purposes. Moreover, these populations are increasingly vulnerable and often times more likely to be victims of traffic violence. Understanding their unique infrastructure needs and potential barriers to safe access and mobility is critical in providing protection and opportunities for viable transportation options.

Success metric:

- Reductions in the number and percentage of injuries and deaths of the elderly and persons with disability.
- Infrastructure investments catering to the safety, security and mobility of the elderly and persons with disability.
- Establishment of a Senior Citizen Advisory Council *(If not already established)*

Responsibility: Orlando Department of Public Works, Department of Engineering, Traffic, and Transportation, and the Office of Senior Affairs

#7: EVALUATE AND MITIGATE THE UNINTENDEND CONSEQUENCES OF IMPROVED MOBILITY AND ACCESS ON LOW-INCOME AND MINORITY COMMUNITIES *(INCOME EQUITY)*

Investments in bike infrastructure can result in unintended outcomes for low-income and minority communities that such infrastructure is intended to serve. This includes displacement, cultural erasure, and increased police activity and surveillance. It is imperative that changes in the economic marketplace are evaluated and mitigated to avoid disproportionate impacts on low-income and communities of color when investments in streetscape improvements are made.

Success metric: Establishment of a strategic plan to address before-, during- and after-stages of gentrification and displacement.

Responsibility: Orlando Engineering, Traffic, and Transportation Department, Division of City Planning, and the Orlando Housing Authority

#8: ENGAGE WITH WOMEN TO DEEPEN UNDERSTANDING OF BEHAVIOR AND USAGE DIFFERENCES TO IMPROVE OVERALL ACCESS AND MOBILITY *(GENDER EQUITY)*

When it comes to accessing cycling infrastructure, women have unique safety and mobility challenges/needs than men. As such, it is imperative that a deeper understanding of collective needs and challenges be documented and analyzed to better reflect and respond to collective demands for increased cycling access and mobility in Orlando.

Success metric:

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- Reduction in the number and percentage of fatalities and injuries among women while bicycling.
- Establishment of a Women's Advisory Committee
- Documentation and mitigation of issues affecting women while bicycling.

Responsibility: Orlando Department of Public Works, Orlando Engineering, Traffic, and Transportation Department

#9: MAP THE CORRELATION BETWEEN CRIME AND TRAFFIC VIOLENCE THROUGH CLUSTER DATA ANALYSIS

Too often incidences of traffic violence (i.e., vehicular-pedestrian/bike crashes) and personal violence (robbery, assault, etc.) occur with close proximity to each other, but without much consideration or a unified and strategic allocation of resources to address both simultaneously with planning and enforcement efforts such as Crime Prevention Through Environment Design (CPTED) and traffic enforcement operations.

Success metric:

- Cluster mapping of traffic violence and crime.
- Strategy development around CPTED.
- Establishment of a joint-funding source to address issues simultaneously.

Responsibility: Orlando Department of Public Works, Division of City Planning, and the Orlando Police Department

#10: ENGAGE WITH FOREIGN-BORN POPULATIONS TO DEEPEN UNDERSTANDING OF BEHAVIOR AND USAGE DIFFERENCES TO IMPROVE OVERALL ACCESS AND MOBILITY *(CULTURAL EQUITY)*

Nearly one-quarter (24.6%) of Orlando' population is foreign-born. In order to improve cultural equity among Orlando's foreign-born residents, it is imperative that cultural differences be documented to understand how it impacts a population's perception and understanding of bicycling within the American context.

Success metric:

- Reduction in the number and percentage of fatalities and injuries among foreign-born populations while bicycling.
- Documentation and mitigation of issues affecting foreign-born populations while bicycling.

Responsibility: Orlando Department of Public Works, Division of City Planning, Orlando Engineering, Traffic, and Transportation Department, and the Orlando Police Department

#11: PARTNER AND COLLABORATE WITH LOCAL NON-PROFIT ORGANIZATION TO PROVIDE BICYCLES TO LOW-INCOME AND MINORITY RESIDENTS *(INCOME EQUITY)*

DRAFT

Increasing the number and percentage of people bicycling on Orlando's streets will help improve the safety and mobility of all bicyclists in the city. Unfortunately, many low-income and minority residents do not own, have access to, or utilize bike share at a rate comparable to their counterparts. National best practices prove that city and non-profit partnerships and collaboration increase the number of bicycles available to low-income and minority residents.

Success metric:

- Establishment of a partnership/collaboration with a non-profit that provides free and reduced cost bicycles to low-income and minority residents.
- Increases in the number of low-income and minority residents biking within the city, as documented anecdotally and periodically through surveying of cyclists.

Responsibility: Orlando Engineering, Traffic, and Transportation Department

#12: ENFORCE AND ADHERE TO TITLE VI OF THE CIVIL RIGHTS ACT OF 1964 AND ENVIRONMENTAL JUSTICE EXECUTIVE ORDER 12898 *(RACIAL/ETHNIC/INCOME EQUITY)*

Title VI of the 1964 Civil Rights Act demands prohibition against exclusion from participation in, denial of benefits of, and discrimination under federally assisted programs on grounds of race, color, or national origin." Executive Order 12898—Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Population "requires federal agencies to achieve environmental justice by identifying and addressing disproportionately high and adverse human health or environmental effects, including the interrelated social and economic effects of their programs, policies, and activities on minority populations and low-income populations in the United States." Both are critical and foundational in the protection of vulnerable users on Orlando's streets.

Success metric:

- Periodic documentation of an adherence to Title VI and EJ.

Responsibility: Orlando Engineering, Traffic, and Transportation Department

#13: INCREASE CITYWIDE INVESTMENTS IN BIKE INFRASTRUCTURE AND MAINTENANCE *(MODAL EQUITY)*

Historically, a disproportionate share of infrastructure investments has gone towards the goals of improving vehicular mobility on Orlando's streets. However, these investments have not yielded increased mobility and have ultimately stunted the growth of more efficient and economically productive forms of urban transport. Thus, given the growth cycling across the city and the disproportionate share of bicyclists involved in fatal and serious injuries, it is imperative that additional funds go towards new and improved bikeway infrastructure to improve safe access and equitable mobility for all Orlando's residents.

Success metric:

- Increase in investments in new bike infrastructure and maintenance.

Responsibility: Orlando Engineering, Traffic, and Transportation Department

DRAFT

DRAFT

Appendix D: Community Outreach Summary

Bicycle Plan Update

Community Outreach Plan



Prepared for the City of Orlando

By Quest Corporation of America, Inc.

January 2019

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COMMUNITY OUTREACH PLAN
City of Orlando Bicycle Plan Update
RQS18-0092
Orlando, Florida

I. INTRODUCTION

The purpose of this Community Outreach Plan is to guide efforts for providing information to, and obtaining input from, concerned citizens, agencies, private groups (residential/business), particularly those interested in cycling locally and regionally, and governmental entities. The overall goal of this plan is to help ensure the recommendations in the City of Orlando Bicycle Plan Update reflect the vision, values and needs of the communities it is designed to benefit.

The Community Outreach Plan will establish a comprehensive, inclusive process for public engagement. The plan will employ various methods to provide early and continuous involvement, and ensure outreach to affected communities, particularly those who are traditionally underserved.

This plan is developed in compliance with all local, state and federal regulations. It is meant to be a living document that is reviewed and updated throughout the study to measure effectiveness and document progress.

II. PROJECT DESCRIPTION



As the City of Orlando and the surrounding Central Florida region continue to grow rapidly, transportation planners recognize that solutions to the increased traffic congestion must include multi-modal options. Today, most residents and commuters in Central Florida rely on automobiles, even on shorter trips. In fact, according to Data USA, in 2016 more than 80 percent of commuters drove themselves. Only about 4 percent used public transit, and fewer than 1 percent of commuters rode a bicycle. One deterrent to bicycle commuting is safety when bicycles and vehicles must share the same road.

In recent years, the city has made significant strides in creating safer facilities for bicyclists, and it prides itself on achieving bronze-level status as a Bicycle Friendly Community based on the League of American Bicyclists' “5 E’s for a Bicycle Friendly Community”. There are currently more than 300 miles of bike lanes and shared used paths in Orlando, many developed in conjunction with other road or development projects.

To help guide development of new facilities the city created a Bicycle Master Plan, which was last updated in 2008. The city has launched the Bicycle Plan Update project to update the master plan with a focus on the following goals:

- Evaluating and developing an approach to closing existing gaps in the bicycle infrastructure;
- Identifying opportunities for creating protected bicycle infrastructure;
- Increasing safety within the network;
- Performing an economic analysis to show the impact of City's bicycle economy, including employment, retailing, tourism, commuter activities, and other elements related to the economics of alternative transportation; and
- Raising public awareness.

Project Contact Information

For additional information regarding this project contact:

Jamie Krzeminski
Consultant Project Manager
315 E. Robinson Street, Suite 400
Orlando, FL 32801
407-420-4250
Jamie.krzeminski@hdrinc.com

Ian Sikonia
City of Orlando Project Manager
400 S. Orange Avenue
Orlando, FL 32801
407-246-2121
ian.sikonia@cityoforlando.net

III. PROJECT BACKGROUND

Orlando developed its first Bicycle Plan in the early 1990s in response to being ranked by Bicycle Magazine as one of the worst cities for cycling in the country. The city accepted the challenge to improve bicycle facilities and safety and has since created more than 250 miles of bikeways and trails, including more than 40 miles of off-street trails.

As part of its 2008 Bicycle Plan Update, the city stated:

> *"Mobility is a key element in the well-being of a city, and the transportation system is the basic framework upon which a city is built. As we plan for transportation in Orlando, it is our vision to have a transportation system with various mobility alternatives for residents, employees and visitors alike. One of the most effective ways to counterbalance travel demand and traffic congestion in urban areas is to provide transportation choices.*
>
> *We visualize a multimodal transportation system for Orlando which creates a high level of accessibility, reduces dependency on the automobile, increases transit usage, creates a quality pedestrian environment, and offers a safe and attractive climate for bicycling.*
>
> *The increased use of bicycles and other non-motorized modes can prevent environmental degradation and conserve energy."*



The 2008 update contained various goals, policies, and maps that were used as a guideline for the implementation of bicycle infrastructure. Since 2008, the city has continued to invest in bicycle infrastructure that includes expanding the trail network, creating more bike lanes, increasing public awareness, establishing a bike share program, and opening a mountain bike park.

To evaluate the use of the facilities, the City of Orlando started a bicycle and pedestrian count program in 2015 that takes counts at the different trails and pedestrian locations throughout the city. Since the program's inception, officials have seen high utilization of the trails, with counts over 200,000 trips per month with the highest daily counts occurring on Saturdays. The city has encouraged development of bike share programs, provided bike repair stations and bike parking areas, as well as other amenities to help encourage ridership, promote safety, and provide new economic opportunities for businesses.

In 2013, the city adopted the Greenworks Community Action Plan that established goals for transportation as a strategy area. The 2018 targets include the reduction of daily trips by single occupancy vehicles and decrease in number of bicycle and pedestrian fatalities.

To further these efforts, it is necessary for the city to try to close existing gaps within the bicycle network and improve connectivity between popular destinations and activity centers. Additionally, the continued growth of the area and increased traffic congestion on major roadways are an obstacle for many riders when separated bicycle lanes are not available. Increasing safety for cyclists will be needed to increase utilization.

Improving connectivity and examining expansion of off-road facilities also complements the city's commitment to Vision Zero, a program to eliminate pedestrian deaths by 2040.

The Bicycle Plan Update will identify and evaluate options for achieving these goals.

IV. COMMUNITY DESCRIPTION

The City of Orlando is the largest city within Central Florida and the county seat for Orange County. According to recent U.S. Census data, slightly more than 280,000 people call "The City Beautiful" home, while the Orlando metropolitan area boasts an ever-growing population of more 2.8 million people. The city is characterized by a diverse collection of more than 100 neighborhoods, a robust downtown business center that includes a significant technology industry, and a thriving tourism industry centered around the major theme parks located just outside city limits.

As Central Florida continues to attract more residents, building continues at a rapid pace in the region, and large transportation improvement projects are in progress or planned to try to accommodate increased demand on the roadways. For Orlando, the most significant is the I-4 Ultimate project to widen I-4 and add express lanes through the city. Construction is ongoing, with a completion date expected in 2021.



But building new roads is only part of the answer, regional leaders say. Investment in transit, light rail, ride share and other multi-modal solutions, such as pedestrian and bicycle travel, is needed. And while the number of commuters who regularly ride a bicycle to work is small, interest in cycling in the city continues to rise. Attesting to the popularity is the growth of bike share companies and bicycle merchants, and the participation by hundreds of riders in activities like the annual Bike to Work Day and Critical Mass rides on select Friday evenings.

Recreational riding also is popular, in part, as a way to travel to and around the many recreational areas in the city. Orlando has invested in outdoor recreation areas, with more than 80 parks, including the iconic Lake Eola Park, which hosts numerous large events each year. Connecting these recreational areas to neighborhoods will provide safer options for families.

Demographically, Orlando is quite diverse. Approximately 38 percent of residents are white, just over 30 percent Hispanic and slightly more than 23 percent are black. About 21 percent of Orlando residents speak Spanish. To reach these non-English speakers, information will be available in English and Spanish as appropriate.

Orlando's residents also are slightly younger and earn slightly less than the rest of the state by median age and income. At the same time, housing costs are slightly higher. More than 19 percent of residents are below the poverty line, which is higher than the national average. Although most Orlando residents have at least one vehicle, those who are economically disadvantaged are more likely to depend on public transit, walking or bicycling. A specific focus of the Bike Plan Update will be to ensure these residents and their communities are engaged and represented.

The City of Orlando also ranks as one of the top visitor destinations in the country. Orlando International Airport, which is located within the city, handles more than 44.6 million passengers annually, making it the nation's 13th busiest airport. The city also is home to some other key cultural and entertainment centers including Amway Arena, Dr. Phillips Center for the Performing Arts and Camping World Stadium that draw visitors from throughout the region and state.

V. PROJECT STAKEHOLDERS

The Bike Plan Update will be a citywide initiative and the goal of the community outreach will be to encourage both awareness of and participation in its development by a broad group of stakeholders, including those in traditionally underserved areas. A list of those who are expected to have an interest in the project follows. The list includes both the stakeholders expected to have an active role, as well as those who are being notified primarily for informational purposes.

Through the listed stakeholders, the project team will work to reach current and potential bicycle riders, companies that support cycling in the city, including bicycle shops and bike share programs, bicycle advocates, and neighborhood leaders whose areas fall within the bicycle network gaps. The list also includes local and regional agencies that may have an interest in the project.

As other concerned parties are identified throughout the study, they also will be listed and contacted.

State & Regional Agencies:

- Florida Department of Transportation, District Five
  - Office of Modal Development, Michael Ziarnek, Bicycle Pedestrian Coordinator
- MetroPlan Orlando
  - Gary Huttmann, Executive Director
  - Virginia Whittington, Director of Regional Partnerships
  - Mighk Wilson, Bicycle and Pedestrian Transportation Planner
  - Cynthia Lambert, Public Information Manager
  - Mary Ann Horne, Community Outreach Specialist
- East Central Florida Regional Planning Council
  - Hugh Harling, Executive Director
  - Tara McCue, Director of Planning & Community Development
- LYNX
  - Jamesd Harrison, Interim Chief Executive Officer
  - Myles O'Keefe, Project Manager
- SunRail, Nicola Liquori, Executive Director
- Orlando Utilities Commission, Clint Bullock, General Manager
- Orange County Public Schools
  - Barbara Jenkins, Superintendent
  - William Wen, Transportation Services Director
- Randy Knight, City Manager, City of Winter Park
- rethink your Commute, Courtney Reynolds, Program Manager

Local & Regional Organizations:

- B3 Café Group rides
- Bike/Walk Central Florida, Amanda Day, Executive Director
- Commute Orlando, Keri Caffrey, Founder
- American Bicycling Education Association
  - Lisa Walker, Vice President
- CareerSource Central Florida, Pamela Nabors, President & CEO
- Coalition for the Homeless of Central Florida, John Hearn, President & CEO
- League of American Bicyclists, Bill Nesper, Executive Director
- Orlando Bike Coalition, Aaron Powell, Founder
- Lakemont Elementary Group Rides
- Eastside Cycling Club, Crockett Bohannon, President
- Florida Bicycle Association. Becky Alfonso, Interim President
- Florida Bicycle Racing Association, Vince Cook, President
- Florida Freewheelers, Inc., Leslee Mitchell, Executive Director
- Orlando Road Club, Richard Benton, President
- Cycling Savvy, Jacob Adams, Instructor
- Orlando Critical Mass
- Zebra Coalition, Heather Wilkie, Executive Director
- Central Florida Urban League, Dick Batchelor, Chairman
- African American Chamber of Commerce of Central Florida, Tanisha Nunn Gary, President
- Interfaith Council of Central Florida, Jim Coffin, Executive Director

Local Businesses

- Winter Park Cycles
- Ace Metric Cycles, Michael Blackshaw, Manager
- Advanced Cycles
- Winter Garden Wheel Works
- Cycle Spectrum, Franck, Cortassa, General Manager
- David's World Cycle, Eric Yvette
- Full Circle Bicycle, Fred Hewett, Owner
- Juice Bike Share
- Kyle's Bike Shop
- Lime Bike
- Orange Cycle
- Performance Bicycle

Local Elected and Appointed Officials

City of Orlando

- Mayor Buddy Dyer
- Commissioner Jim Gray, District 1
- Commissioner Tony Ortiz, District 2
- Commissioner Robert Stuart, District 3
- Commissioner Patty Sheehan, District 4
- Commissioner Regina Hill, District 5
- Commissioner Samuel Ings, District 6
- Kevin Edmonds, Acting Chief Administrative Officer and Interim Fire Chief
- Brittany Sellers, Green Works Orlando, Sustainability Project Manager, Transportation
- Orlando Rolon, Police Chief
- Brooke Bonnet, Director of Economic Development
- Dean Grandin, Planning Division Manager
- Thomas Chatmon, Executive Director, Downtown Development Board
- Lisa Early, Director, Department of Families, Parks and Recreation
- Richard Forbes, Historic Preservation Officer
- Oren J. Henry, Director of Housing and Community Development Department
- Pauline Eaton, Orlando Main Streets program
- Rick Howard, Director of Public Works
- After School All Stars Orlando, Tyler Chandler, Regional Executive Director
- Parramore Kidz Zone, Adamaris Ramirez, Seasonal Assistant

Orange County:

- Mayor Jerry L. Demings
- Commissioner Betsey VanderLey, District 1
- Commissioner Christine Moore, District 2
- Commissioner Mayra Uribe, District 3
- Commissioner Maribel Gomez Cordero, District 4
- Commissioner Victoria Siplin, District 5
- Sheriff John Mina
- Amanda Kimmer, Orange County Parks
- Byron Brooks, County Administrator
- Renzo Nastasi, Manager, Transportation Planning
- Orange County School Board
    - Teresa Jacobs, Chair
    - Angie Gallo, Commissioner District 1
    - Johanna Lopez, Commissioner District 2
    - Linda Kobert, Commissioner District 3
    - Pamela Gould, Commissioner District 4
    - Kathleen Gordon, Commissioner District 5
    - Karen Castor Dentel, Commissioner District 6
    - Melissa Byrd, Commissioner District 7*

VI. OUTREACH ACTIVITIES

The following strategies will be used to engage stakeholders early and often throughout the project, and to notify all interested persons about public meetings and opportunities to participate in the decision-making process. The plan recognizes the city's diversity and need to employ a variety of tactics to give voice to those less likely to participate in public meetings and traditional outreach methods.

Successful outreach will require active engagement of the community leaders and influencers, particularly in the neighborhoods most likely to be affected by the project. Examples include civic groups, school leaders, religious organizations and social service agencies, as well as local business leaders who support development of multi-modal options for their employees.

The plan proposes intentional engagement with the Coalition for the Homeless of Central Florida, CareerSource Central Florida, and programs like After School All Stars Orlando. Working with representatives from these organizations and others will allow the project team to better understand how an integrated bicycle network can positively impact their clients and help to set priorities.

Stakeholder Database

A database of all stakeholders will be developed early in the study and updated as needed to include all interested persons and groups. At a minimum, the database will include the stakeholders listed above, affected property owners/tenants and business owners/operators, homeowner associations and other neighborhood and community groups, media, and others who are interested in the project. The database will be reviewed and updated upon the completion of the equity analysis to ensure all key groups and populations identified during the analysis are included in outreach.

Online Tools/Information

Perhaps the most important strategy will be development and promotion of online tools, particularly with the slightly younger demographic in the city. The online tools expected to be used include:

- utilizing the Online Map and Comment Tool;
- enlisting partner agencies/businesses to post information about the project on their sites; and
- employing social media messaging as appropriate.

The online tools will both provide information and an opportunity to offer suggestions and feedback. Information to be posted on the web will include announcements of public meetings and contact information for persons seeking additional information or wishing to offer input, as well as documents and materials used during public meetings.

Information shared via the online tools should be provided in both English and Spanish.

Invitation for Public Participation

In addition to the online announcements mentioned above, the project team will prepare a notification flyer to be strategically distributed to stakeholders. Invitations will be prepared in advance of all public meetings and will be posted on the city's web pages, shared via social media, and emailed to stakeholders.

The project team also will post invitations at appropriate locations, such as: the bicycle shops and businesses listed in the stakeholder section of the plan; community and recreation centers; the Washington Park, South Trail and Southeast branch libraries; Orange County Health Department and Orange County Neighborhood Services.

The project team also will provide information to homeowner/neighborhood associations, apartment community management companies and religious organizations as appropriate to share with their members. All materials will be submitted to the City of Orlando for review and approval.

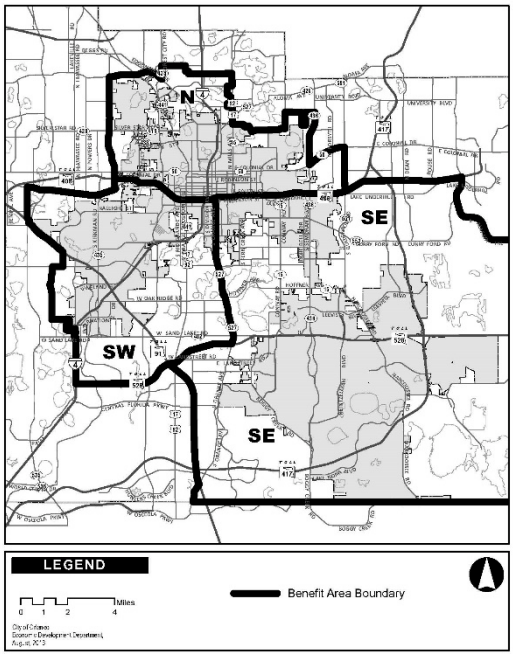
Project information will also be provided to state, regional, and local agencies prior to the public outreach meetings. Officials will be invited to review materials and provide comment.

Media Advisories/Press Releases

Media advisories/press releases will be prepared and sent to the City of Orlando for distribution at least seven days prior to any public meeting. Additional media opportunities for news and feature stories about the project will be identified and pursued in coordination with the city's Public Information Office. Examples of these opportunities are a feature story about the project's findings related to the economic impact of cycling in the city, or a feature focused on the positive safety impact achieved through better connectivity.

Media outlets that serve the project area include: the Orlando Sentinel; El Sentinel, Orlando Weekly; Orlando Times, Orlando Business Journal, WESH-TV; WKMG-TV; WFTV-TV; and Spectrum News 13; and local radio stations including WPOZ (88.3 FM), WUCF (89.9 FM), WMFE (90.7 FM), WDBO (96.5 FM), WPRK (91.5 FM), WWKA (92.3 FM), WCFB (94.5 FM), WPYO (95.3 FM), WRUM (100.3 FM), WJHM (105.9).

Figure 56.34-1 Park Benefit Areas



Public Outreach Meetings

A series of three public outreach meetings are scheduled near the beginning of the project to introduce the project and obtain initial feedback. The open meetings have been scheduled for March 26, 2019, at the Beardall Senior Center; April 9, 2019, at the Dr. James R. Smith Neighborhood Center; and April 17, 2019, at Lake Nona High School.

The meetings will be conducted as open houses and will include the same information. The three locations are designed to provide geographically diverse opportunities for participation within the city. All meetings will be held in facilities that meet all requirements of the Americans with Disabilities Act.

A fourth citywide public meeting will be held later in the project to receive input on the draft plan.

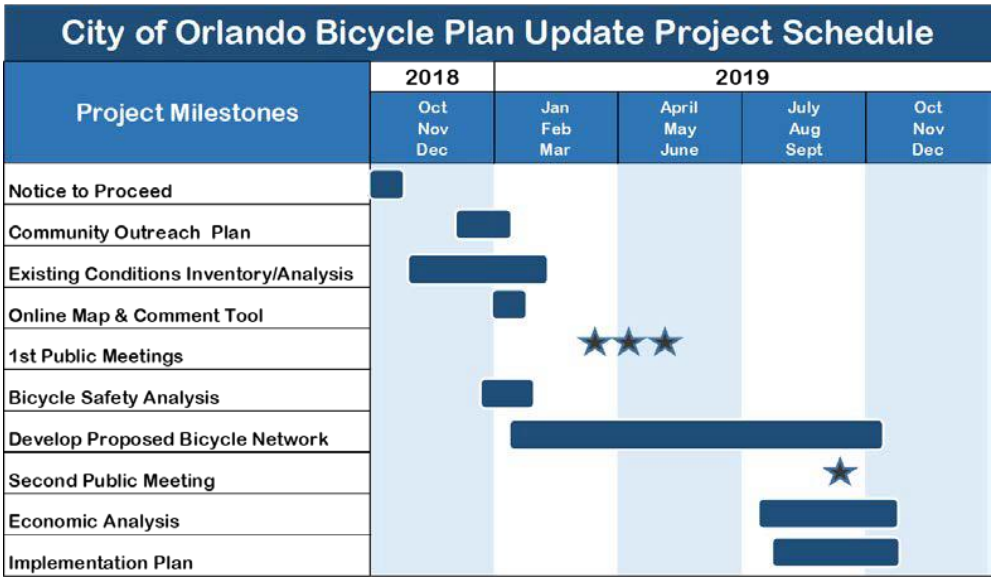
Additional Outreach Activity

One additional outreach activity is anticipated. This activity will be used to target transportation disadvantaged populations, and may be a small group meeting with select stakeholders, or a pop-up meeting such as attendance at a community event to raise awareness of the project and invite participation, setting up an information station at a key location within the city (such as LYNX Central Station), or other outreach activity as determined by the city. The meeting should occur during lunchtime hours or in the evening.

VII. ANALYSIS AND SUMMARY OF PUBLIC COMMENTS

At the conclusion of the project, a document will be produced and submitted containing all records regarding public participation performed throughout the course of the project. This document will include meeting summaries, all comments and responses received from the public, the stakeholder database, coordination with local officials and agencies and public correspondence.

VIII. PROJECT SCHEDULE



BIKE PLAN UPDATE



Initial Public Outreach

Meetings Summary

May 2019



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I. Notification Flyer and Social Media Post
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BIKE PLAN UPDATE

MEETING SUMMARY

The City of Orlando held three initial public outreach meetings to introduce the Bicycle Plan Update project to the community and gather feedback. The meetings were held at three separate facilities located in the northeast, southeast and southwest sections of the City. The meeting locations, dates and times were as follows:

- Tuesday, March 26, 2019, 5:30 – 7 p.m., at the Beardall Senior Center, 800 South Delaney Avenue
- Tuesday, April 9, 2019, 6 – 7:30 p.m., at the Dr. James R. Smith Neighborhood Center, 1723 Bruton Boulevard
- Wednesday, April 17, 2019, 6 – 7:30 p.m., at the Lake Nona High School Cafeteria, 12500 Narcoossee Road

These initial public outreach meetings allowed the community to learn about the project and provide input to help the City develop a plan to improve network connectivity and safety for bicycle riders of all ages and abilities.



A total of 77 people attended the three meetings. The first meeting at the Beardall Senior Center drew the largest crowd, with 46 individuals signing in. Ten community members signed into the April 9 meeting, while 21 signed into the meeting in Lake Nona on April 17, including Commissioner Jim Gray.

A copy of the sign-in sheets is included in Appendix A.

Meeting Format

The meetings were held as open houses. Attendees were greeted by project staff and asked to sign in. Each attendee was given a Public Workshop Tour Route / Comment Card explaining each of the four stations they could visit. Participants were encouraged to obtain a sticker for the tour route card at each of the stations. The first 20 people to turn in a completed tour route card at each meeting received a set of bicycle lights. Attendees also were given a reminder card at the sign-in table, directing them to the project's website and online survey tool. Maps of the city's bike trails were also available. Copies of the Public Workshop Tour Route / Comment Card and reminder card are included in Appendix B.

After signing in, attendees were invited to place a push pin to mark where they live on a city map displayed on the welcome sign next to the sign-in table. A photo of the map is included in Appendix B.

Meeting Agenda

The four stations were Biking Today, Connect the Dots, Funding Your Priorities and Tell Us More. The stations were set up around the room and labeled with station numbers to help guide attendees through the meeting. A detailed outline of the activities is included in Appendix C.

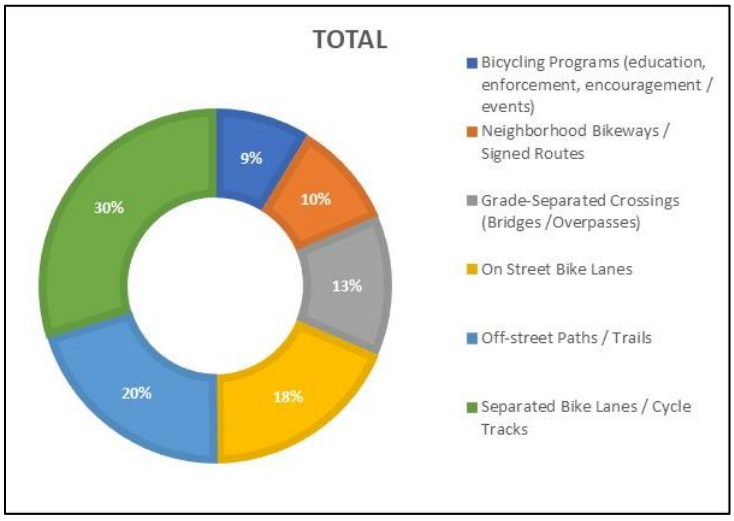


Station 1 - Biking Today provided an overview of the project's purpose and existing conditions. The information was conveyed using four display boards titled About the Project, Biking in Orlando by the Numbers, Existing Bikeways Network Map and Types of Bikeways Matrix. A copy of the display boards is available in Appendix D.

At Station 2 - Connect the Dots, attendees had an opportunity to use colored string on a large map to illustrate origin and destination points of places they currently travel and those they would like to travel. The goal of Station 2 was to gain an understanding of the locations of the highest demand for bikeways. Attendees added to the map at each meeting to provide a single, compiled view. A picture of the map is included in Appendix E.

The intent of Station 3 - Funding Your Priorities was to learn which types of facilities are most important to the community. Participants were given $100 in play money (two $20s, four $10s and four $5s) and asked to place the bills in any of the following boxes:

- Overpasses;
- Off-road multi-use trails;
- Separated bike lanes / cycle-tracks;
- On-street bike lanes;
- Neighborhood bikeways / signed routes; and
- Bicycling programs (education, encouragement / events, enforcement).



The results varied slightly among the meeting venues. Overall, separated bike lanes / cycle tracks had the most support, followed by off-street paths / trails and on-street bike lanes.



Separated bike lanes / cycle tracks received the most dollars among attendees at the first two meetings, while off-street paths / trails garnered the most support at the third meeting in Lake Nona.

Please see additional results in Appendix F.

Station 4 – Tell Us More provided participants an opportunity to give input using the online mapping tool and by taking an online survey either using tablets provided by the project team or on their phones. The online survey remained open through April 29, 2019. The live polling results were displayed at each meeting.



The online survey included nine multiple choice questions to help understand the types of riders that the survey participants represented as well as questions related to their priorities for the bike plan update. The survey also included four open-ended questions to allow participants to provide additional comments.

The online mapping tool allowed participants to indicate desired routes and locations, safety concerns, and network gaps. More information on the mapping tool is included in the Meeting Comments Summary section of this report. The complete survey and mapping tool results are included in Appendix G.

At this station, attendees also had an opportunity to fill out comment forms.

MEETING NOTIFICATION



Meeting notification flyers were sent via email to City of Orlando elected and appointed officials, Orange County officials, and 46 other interested stakeholders, including regional transportation and planning organizations, bicycling organizations / clubs, and local bicycle businesses.

Copies of the flyer were hand-delivered to eight bicycle shops, four public libraries and the Orange County Health Department. Copies of the master mailing list and hand-delivery list are included in Appendix H.

The City of Orlando posted the invitation on several social media platforms, including Facebook and the Nextdoor neighborhood network. A media advisory was provided to the City of Orlando, which also shared the public meeting as Mayor Buddy Dyer's "Story Idea of the Week" post. Copies of the flyer and social media posts are included in Appendix I.

MEETING COMMENTS SUMMARY

Attendees had several ways to provide comments on the project. Comment forms were distributed at the sign-in table and were also placed at Station 4: Tell Us More. Comments also were received via the online Mentimeter survey and through the online mapping tool.

Overall, the comments demonstrated enthusiastic support for continued investment in creating a safe, connected bicycle network. Several comments noted the importance of bicycling to the city's economic well-being and quality of life for residents and visitors. Many comments also urged education for bicyclists and drivers, and better traffic enforcement. A few of the comments expressed opposition to replacing traffic lanes with bike lanes.

Mentimeter Survey Comments
As part of the Mentimeter survey, participants were asked to provide their biggest obstacle to bicycling. There were 193 responses offered, with safety cited most frequently. Many of the safety-related responses pointed to driver behaviors on the roadways and the lack of separated bicycle facilities, especially trails. Other obstacles mentioned included the hot weather in Florida, time, and issues with connectivity.

The survey also provided two opportunities for comments. One question invited participants to be quoted in the Bicycle Plan. A total of 105 comments were offered in this section. The last question invited participants to provide additional input, and a total of 79 comments were provided.
A complete transcript of the comments can be found with the Mentimeter Survey questions and results in Appendix G.

Common themes expressed in the survey comments included the following:

- Having a connected, safe bicycling network is key to the city's vitality
- Reduce fragmentation within the network and connect to key facilities outside of the city (e.g., Little Econ Greenway)
- Network needs to connect to business centers
- Separated bicycle lanes / paths are needed on major roadways for safety; many do not feel safe riding on major roads
- Bicycle facilities should be included as part of proposed development reviews



- Ensure adequate resources for bike / ped projects; improve equity between roadway and bike / ped funding
- Bicycling contributes to residents' health, builds community and improves quality of life
- There is a need for more driver education and enforcement of laws to increase safety and build a culture where cars and bicycles coexist
- Concerns over safety of multi-use trails from cars turning to cross a trail without looking for bicyclists
- Support for additional bicycle facilities such as the pump track and mountain bike course at Druid Park
- Keep bike shares in the city and provide more bike parking
- Concern over removing automobile travel lanes and its effect on congestion (referenced Curry Ford and Conway projects)
- Support for more facilities in MetroWest
- Encourage more bike sharing

Online Mapping Tool Comments

Another way interested persons were invited to comment was using the online mapping tool. The mapping tool was accessible at the public meetings, as well as on the project webpage. Using this tool, residents could draw desired bicycling routes and leave comments associated with specific geographic locations within the city. Additionally, subsequent users could click on a point already mapped and click to agree or disagree, as well as add comments. More than 100 comments were posted on the mapping tool under the following categories:

- Route I Currently Bike
- Route I Want To Bike
- Route Is Not Bike-Friendly
- Other Route Comment
- Location I Currently Bike To
- Location I Want To Bike To
- Network Gap / Crossing Barrier
- Safety Concern
- Other Location Comment

Written Comments

Five comment forms were turned in at the March 26 meeting. No comment forms were received at the April 9 or April 17 meetings. Comments turned in on the comment forms at the March 26 meeting were as follows:

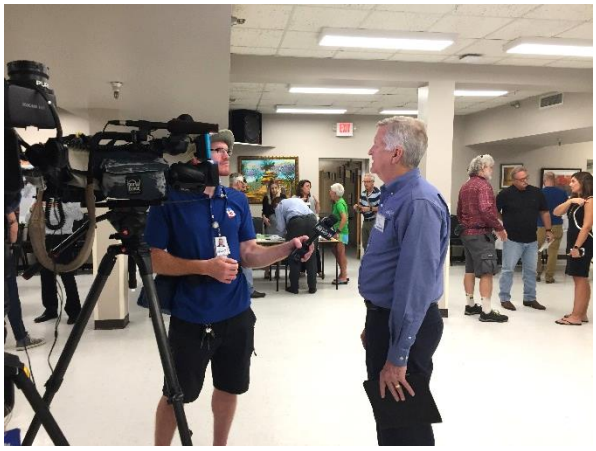
- Great Work! Looking forward to seeing so many of these projects come to fruition.
- More bike racks please! Great job increasing bike lanes.

- Thanks for the meeting. I live near Curry Ford and would bike a lot more often if it was safer in that area. Coming to this meeting I watched a cyclist nearly get hit while stopped at a red light.
- More funding! We need to be more equitable in split between roads / transit / bikes / peds / etc. I would happily pay more taxes to allow for funding in non-road priorities.
- Paved bike lanes on brick streets such as Livingston. Good candidates: Ivanhoe in College Park, Summerlin, Delaney. Road diet on Princeton Street. Off-peak parking lane conversion on roads such as Mills Avenue. More signalized intersections to slow traffic and provide bike crossings. Contraflow bike lane could be way to save space on roads like Edgewater. Multiuse trails on high-speed roads such as Semoran.

Copies of the completed comment forms are included in Appendix J.

MEDIA COVERAGE

Staff from three local television stations attended the March 26 meeting: WESH 2 News, Spectrum News 13 and Fox 35 News. City of Orlando Transportation Director Billy Hattaway provided on-air interviews. WFTV Channel 9 attended the April 9 meeting and interviewed City of Orlando Transportation Planner F.J. Flynn. No media attended the April 17 meeting in Lake Nona. The City of Orlando issued a second press release after the April 17 meeting to notify the public that the online survey would remain open until April 26.



MEETING PHOTOS





A collection of meeting photos can be found in Appendix K.

APPENDIX A

BIKE PLAN UPDATE

Public Meeting No. 3
April 17 2019
Lake Nona High School Cafeteria

Please Sign In

NAME	ADDRESS or NEIGHBORHOOD	PHONE	EMAIL	AGENCY/ORGANIZATION
Larry + Diane Heald	9966 Sandy Hollow	407-222-9930	dianeheald@icloud.com	—
GREG NIXON	EAGLE CREEK	407-616-5167	OUTSIDEGREGN@GMAIL.COM	
Diane Wilkel				City of Orlando
Frank Gilhart	College Park	4074030238	mtwicker@yahoo.com	OCPS
Dan LeeAnn Palmer	Eagle Creek	407-923-9146		

BIKE PLAN UPDATE

Public Meeting No. 3
April 17 2019
Lake Nona High School Cafeteria

Please Sign In

NAME	ADDRESS or NEIGHBORHOOD	PHONE	EMAIL	AGENCY/ORGANIZATION
Cedric A. Moffett		(407) 836- 6240	cedric.moffett@ocfl.net	Orange Cnty Parks Recreation.
TARIQ AFZAL		734 2331891	TAFZAL001@gmail.com	
DAN PALMER	EAGLE CREEK	407-925-2432	DAN@IdFlorida.com	NONA Cycle.

BIKE PLAN UPDATE

Public Meeting No. 3
April 17 2019
Lake Nona High School Cafeteria

Please Sign In

NAME	ADDRESS or NEIGHBORHOOD	PHONE	EMAIL	AGENCY/ORGANIZATION
Sean Hobbs	9225 Northlake Pky	407-529-4168	Sean.Hobbs@Q9services.com	Nona Cycle
Karla & Boyd Perry	10369 Grunberg Ave.	407.758.2753	theperrys411@yahoo.com	" "
Jim Gray	9798 Blandford Rd	407-341-2551	Jim.Gray@CityofOrlando.NET	
Jeanette Tunks	8466 Laureate Blvd	703-344-3696	jmlinva@mac.com	
Jennifer Wagner			jennifer.wagner@orlando.gov	City of Orlando
FJ Flynn				
Dan Wilson	13467 Granger Ave	904.501.3143	dbwilson7277@gmail.com	Bike law/Nona Cycle
Paul Pikel	13739 Heaney Ave	407-399-0568	Plikel7@gmail.com	
Ed Romero	8248 Prestbury/Eagle Creek	(407)9286315	dhey31@yahoo.com	Nona Cycle
Terry Godbey	10077 Town Lake Drive	407-415-5244	terrygodbey@yahoo.com	
Humaira Afzal	Lake Nona	734-751 7146	humafz@gmail.com	Nona Cycle
Tom Kerr	8326 Laureate Dr	407 313 0931	CGKerr@comm.ca	—

BIKE PLAN UPDATE

Public Meeting No. 2
April 9, 2019
Dr. James R. Smith Neighborhood Center

Please Sign In

NAME	ADDRESS or NEIGHBORHOOD	PHONE	EMAIL	AGENCY/ORGANIZATION
Matt Siebert	Downtown Orlando	—	MSiebert@ECFRPC.org	East Central Florida Regional Planning Council
Carolyn Austin	927 S. Goldwyn #216 Orl 32805	407-445-5313	Carolyn.Austin@myfloridahouse.gov	FL House District 46
MEGAN CRUZ	DOWNTOWN ORLANDO	—	MEGAN.CRUZ@WFN.COM	WFN
FJ Flynn	400 S Orange 32806	407-246-2092		City
Tim [illegible]		407-575 5584		

BIKE PLAN UPDATE

Public Meeting No. 2
April 9, 2019
Dr. James R. Smith Neighborhood Center

Please Sign In

NAME	ADDRESS or NEIGHBORHOOD	PHONE	EMAIL	AGENCY/ORGANIZATION
Whitney COYLE	1419 Moselle Ave Orlando FL 32807	502-494-8414	whitney.coyle@gmail.com	Rollins College
Adien DAVID	//	407-920-8168	adien.h.david@gmail.com	Resident.
Rick Cinton	509 Lake Como Cir Orlando, FL 32803		cadypet@aol.com	resident
Claudia Korobkoff	City Hall City of Orlando		Transp. Department	City.
Mukia Myrick	5444 Esplanade Park Cir Apt 2304	407-765-8966	mukia96@gmail.com	

BIKE PLAN UPDATE

Public Meeting No. 2
April 9, 2019
Dr. James R. Smith Neighborhood Center

Please Sign In

NAME	ADDRESS or NEIGHBORHOOD	PHONE	EMAIL	AGENCY/ORGANIZATION
Breanna Sorensen	3925 Lockwood Blvd, Oviedo, FL	321-698-2835	breannasjsorensen@gmail.com	WFTV Channel 9

BIKE PLAN UPDATE

Public Meeting No. 1
March 26, 2019
Beardall Senior Center

Please Sign In

NAME	ADDRESS or NEIGHBORHOOD	PHONE	EMAIL	AGENCY/ORGANIZATION
Jorge A. Barrios	Downtown	407-373-1123	jbarrios@kittelson.com	Kittelson
Logan Kraus	SoPo	407 230 3156	LOGANKRAUS@GMAIL.COM	
Jessica, Siena, Damon Kolb	Lawsona Fern Creek	561 385-2482	JessicaLWIGH@Hotmail.com	

BIKE PLAN UPDATE

Public Meeting No. 1
March 26, 2019
Beardall Senior Center

Please Sign In

NAME	ADDRESS or NEIGHBORHOOD	PHONE	EMAIL	AGENCY/ORGANIZATION
Allan Smith	517 Richmond St 32806	407-415-0713	Allan.Smith@Gmail.com	Private
Jolene Rhodes	849 Bloomingdale 32828	4074979332	jolenerhodes@email.com	
Myles O'Keefe	1011 Lake Highland Dr. 32803	719.648.6606	myles.p.okeefe@gmail.com	
B. Bruce				
Jan Eberl	806 E Anderson	407-497-2264	janisyourkay@gmail.com	self

BIKE PLAN UPDATE

Public Meeting No. 1
March 26, 2019
Beardall Senior Center

Please Sign In

NAME	ADDRESS or NEIGHBORHOOD	PHONE	EMAIL	AGENCY/ORGANIZATION
Nicholas Williams		407-509-6965	nicholas.williams@foxtv.com	WOFL - Fox 35
Phillip Whaley		321-732-2137	PhilipLeeWhaling@gmail.com	???
Nimesh Bhavsar		321-662-4953	NIMESH57@GMAIL.COM	
ALISSA TORRES	ORANGE COUNTY TRANSPORTATION PLANNING	407-836-7762	ALISSA.TORRES@OCFL.NET	
SHELBY VILLATORO	Winter Park	321-261-4182	shelby@bikewalkcf.org	Bike/Walk Central Florida
SAM GALLAHER	SoDo	407 864 6462	samuel.gallaher@gmail	
Nick Lepp	MetroPlan Orlando	on file	on file	on
Elizabeth Whitton	"	"	"	"
Mike Flegel	Colonialtown North	(727) 420-7859	mflegel@gmail.com	
Marla Molina	Orange County Parks		marla.molina@ocfl.net	
Dimitre Guenov	400 E. Colonial	407-325-0411	d.guenov@gmail.com	citizen
BEN ANDERSON	1100 Delaney Ave	321-945-7090	ben.anderson@cushwakeucf.com	Lakeside @ Delaney Park Condo Assoc

BIKE PLAN UPDATE

Public Meeting No. 1
March 26, 2019
Beardall Senior Center

Please Sign In

NAME	ADDRESS or NEIGHBORHOOD	PHONE	EMAIL	AGENCY/ORGANIZATION
ZIARNEK, M.	FDOT D5	386 943 5251	michael.ziarnek@dot.state.fl.us	FDOT
Clete Huhn	LK Conway	407 422 6241	Chuhn1@cfl.rr.com	- Self
Russell Parker	Milk District	813 846 8130	russellaparker@gmail.com	
LOGAN LAMPHERE	Thornton Park	605-490-0732	LLAMPHER@HOTMAIL.com	
BRAD DROESSER	Orange County	407-867-7518	BRAD.DROESSER@VERRAMOBILITY.com	
Mark Sibons	College Park	407 970 5351		self
Kate Baldridge-Hale	Delaney Park			
Aaron Powell	College Park	407-222-0167	aaron@orlandobikes.org	Orlando Bike Coalition
Seiji Schoppert	Downtown		Seiji.Schoppert@cyclehop.com	Hopr / OBC ↗
Jeff Ultee	Mills 50 (Lake Formosa)	908-642-2711	jeffrey.ultee@gmail.com	SAME
Carlos Pereyra	Casselberry	321 279 7704	cjpereyra@gmail.com	Suncoast Sports
Bryan Zebleckes	Curry Ford West	302-494-0384	bZebleckes@gmail.com	myself

BIKE PLAN UPDATE

Public Meeting No. 1
March 26, 2019
Beardall Senior Center

Please Sign In

NAME	ADDRESS or NEIGHBORHOOD	PHONE	EMAIL	AGENCY/ORGANIZATION
PHIL MINGS	1102 GATOR LN. WINTER SPGS	407-491-4835	PLMINGS@AOL.COM	VICE PRESIDENT FLORIDA FREEWHEELERS
Tim Mazzotta	3008 E. Anderson St	407-399 2566	profzeta@yahoo.com	
Hugo Villatoro	905 lake Lily Ave	850 525 5264	HVillatoro@yahoo.com	
KEITH M.	VISTA LAKES	N/A	ORLANDOKAM@ICLOUD.COM	N/A
MARK BEHRENS	DELANEY PARK	321-246-1766	RnrMark@aol.com	
Carl Cheshire	5009 Johnston place	850 321 2646	carlwCheshire@gmail.com	Bikes
DAVID NESSMAN	South Eola		President@SouthEola.org	
Mary Dávila	Conway Place	407-857-6525	mjsampson1225@gmail.com	—
Tim Hayes	Curry Ford West	612-423-6873	hayes.tim@gmail.com	
Della Curenton	Delaney Park	407-230-9993	dbcurenton@gmail.com	
megan parron	mek district			city of Orlando planning
DAVID O. SUTTON	Delaney Park	407-797-0860	dosutton13@YAHOO.com	

BIKE PLAN UPDATE

Public Meeting No. 1
March 26, 2019
Beardall Senior Center

Staff Sign In

NAME	COMPANY/AGENCY	INITIALS
Jeff Arms	HDR	JA
Jamie Krzeminski	HDR	JK
Jenn Rhodes	HDR	JR
Matt Wiesenfeld	HDR	MTW
Crystal Odoh	HDR	
Mark Suarez	HDR	MS
Ian Sikonia	City of Orlando	IS
Emily Thompson	City of Orlando	ET
Charles Brown	Equitable Cities	
Eliza Juliano	Canin Associates	EJ
Carolyn Fitzwilliam	Quest	CFitzWilliam
Alicia Arroyo	Quest	AA
Tyler Valila	HDR	TJV
Will Claggett	Spectrum News 13	WC

Media

APPENDIX B

PUBLIC WORKSHOP TOUR ROUTE

Please complete this form by checking in at each stage of the Public Meeting Tour Route. The first 20 attendees to submit a completed form at Stage 4 will receive free bike lights!

START

1

BIKING TODAY

Learn about the Bicycle Plan Update and Orlando's existing bikeways.

2

CONNECTING THE DOTS

Can you get to where you want to go comfortably on a bike? Using the provided ribbon, connect the dots between your favorite bikeable destinations.

3

FUND YOUR PRIORITIES

Using a set budget of play money, decide the types of improvements you would like to see the City invest in. Remember, you only have $100!

4

FINAL THOUGHTS

Participate in our live polling, use the interactive map to provide additional comments, and fill out the back of this card with any last thoughts.

FINISH





BIKE PLAN UPDATE

PLEASE INCLUDE YOUR CONTACT INFORMATION BELOW TO STAY UP TO DATE ON CITY PROJECTS

NAME: _____ **EMAIL:** _____ **PHONE:** _____

NOTES/COMMENTS:



ORLANDO.GOV/BIKEPLAN

CITY OF ORLANDO TRANSPORTATION

PLEASE INCLUDE YOUR CONTACT INFORMATION BELOW TO STAY UP TO DATE ON CITY PROJECTS

BIKE PLAN UPDATE

ORLANDO.GOV/BIKEPLAN



CITY OF ORLANDO
TRANSPORTATION

Please go to our project web page and use our interactive tools to help plan future bikeways throughout the City of Orlando.




BIKE PLAN UPDATE
PUBLIC MEETING
WHERE
DO YOU LIVE?
Orange
Osceola

APPENDIX C

BIKE PLAN UPDATE

INITIAL PUBLIC MEETINGS: OVERVIEW OF APPROACH



DRAFT March 20, 2019

1 INTRODUCTION

The information below describes the format and activities planned for the Bike Plan Update initial series of public meetings scheduled March 26, April 9, and April 17, 2019. These meetings will be held in an open house format at the following locations and times:

- Tuesday, March 26, 2019, 5:30 - 7 p.m.
  Beardall Senior Center, 800 South Delaney Avenue, Orlando, FL 32801

- Tuesday, April 09, 2019, 6 – 7:30 p.m.
  Dr. James R. Smith Neighborhood Center, 1723 Bruton Boulevard, Orlando, FL 32805

- Wednesday, April 17, 2019, 6 – 7:30 p.m.
  Lake Nona High School Cafeteria, 12500 Narcoossee Road, Orlando, FL 32832

2 FORMAT AND ACTIVITIES

The same format and activities will be the same for all three meetings. This format includes a check-in table and four stations to guide attendees through a series of interactive exercises that will provide insight into the community's priorities to consider during the bike plan update.

2.1 CHECK-IN TABLE

STAFF

The sign-in table will be staffed by two (2) people, one of whom is bilingual (Quest).

SET-UP

- Two (2) rectangular tables
- Two (2) chairs
- One (1) easel

ACTIVITIES

As attendees enter the meeting, they will be greeted and asked to sign in. At the check-in table, the attendees will be oriented and given instructions to the layout of the meeting. Each participant will receive the following materials as they arrive:

1. **ORLANDO BIKE PLAN UPDATE WORKSHOP "TOUR ROUTE" / COMMENT CARD**:
   The workshop "tour route" will be a Tour De France themed handout that will serve as a meeting outline and comment card. The front will include the names of the four stations

(referred to as “stages”) and have a space next to each for attendees to get a stamp that will indicate their participation at the station. Space for comments/notes and the attendees contact information will be included on the reverse side.
Prizes (bike lights) will be given out to the first 20 attendees who turn in a completed “tour route”.

2. PROJECT POSTCARD:
   To encourage attendees to provide additional input after the meeting, attendees will receive a postcard with website links to the mentimeter survey, online comment tool and interactive map and project website.

A welcome board will be set up next to the sign-in table with a map of the City of Orlando asking “where do you live?” Attendees will be encouraged to add a push pin to the map. This map will be used to gain insight into the effectiveness of the outreach strategy and what locations of the City may be underrepresented by the meeting attendees.

Est. Activity Duration: 5 minutes

MATERIALS

- Pens
- Sign-in Sheets
- Workshop Tour Route /Comment Forms (8½ x 5½ pages)
- Project postcards
- Welcome sign / ”where do you live?” map
- Push pins

2.2 STATION 1: "BIKING TODAY" (EXISTING CONDITIONS)

STAFF

Two (2) HDR staff will be assigned to station 1 to answer questions and stamp tour routes.

SET-UP

- Four (4) easels
- Stage "1" Sign

ACTIVITIES

Station 1 will provide an overview of the project. The intent of this station is to give attendees a base understanding of the project and existing conditions to help inform their participation at the activities at stations 2 - 4. This information will be conveyed through four (4) display boards:

1. **ABOUT THE PROJECT**
   Includes project goals and vision statement and the project schedule

2. **BIKING IN ORLANDO BY THE NUMBERS**
   Infographics conveying existing conditions

3. **EXISTING BIKEWAYS NETWORK MAP**
   Includes trails, on-street bike lanes, and signed-routes

4. **TYPES OF BIKEWAYS MATRIX**
   Includes illustration and explanation of neighborhood bikeways/signed-routes, on-street bike lanes, separated bikeways, off-road multi-use trails, and bike/ped overpasses

Est. Activity Duration: 5 - 10 minutes

MATERIALS

- Four (4) mounted display boards
- Stamp

2.3 STATION 2: "CONNECTING THE DOTS" (ORIGIN - DESTINATION DESIRE LINES)

STAFF

One (1) staff will be assigned to station 2 to provide instructions and materials and stamp tour routes.

SET-UP

- Two (2) tables
- Stage "2" Sign

ACTIVITIES

The goal of Station 2 is to gain an understanding of the locations of the highest demand for bikeways. This station will have an area map displayed and have attendees insert push pins in locations to show the origin and destination of (1) their most frequently biked trip, and (2) a trip they would like to make by bike, but currently don't feel comfortable with the existing facilities. These two trips will be differentiated with different color ribbon between the origin and destination.

Additional trips and route information can be provided at station 4 (online mapping tool).

Est. Activity Duration: 5 minutes

MATERIALS

- Large map of the City on cork board
- Push pins
- Two sets of different colored ribbon
- Engineering scales
- Stamp

2.4 STATION 3: "FUND YOUR PRIORITIES" (MONEY BOXES)

STAFF

One (1) staff will be assigned to station 3 to provide instructions, hand out play money, and stamp tour routes.

SET-UP

- Two (2) rectangular tables
- Six (6) money boxes
- Play money divided into sets of $100 (two $20, four $10, four $5 bills)
- Stage "3" Sign

ACTIVITIES

The goal of station 3 is to understand the types of investments that attendees view as a priority. Each participant will be given $100 (two $20, four $10, four $5 bills) as a representation of overall funding, which they will "spend" relative to their priorities by placing money in the following boxes:

- Overpasses
- Off-road multi-use trails
- Separated bike lanes/cycle-tracks
- On-road bike lanes
- Neighborhood bikeways/ Signed routes
- Bicycling Programs (education, enforcement, encouragement/events)

MATERIALS

- Money box labels
- Stamp

Est. Activity Duration: 10-15 minutes

2.5 STATION 4: TELL US MORE

STAFF

Two (2) staff (Quest) will be assigned to station 4 to answer questions, run the tablets (mentimeter) and laptop (online comment tool and interactive map), stamp tour routes, and distribute bike lights.

SET-UP

- Two (2) rectangular tables
- Four (4) Chairs
- One (1) large monitor
- One (1) projector
- One (1) projector screen
- Two (2) tablets
- Two (2) laptops
- Two (2) Mouses
- Sign-holder
- Stage "4" Sign

ACTIVITIES

This station will provide a place for attendees to sit and provide additional written comments, provide information on the two online engagement tools, and give attendees an opportunity to participate in the online activities which will provide a more detailed understanding of their comments, concerns, and priorities.

1. ONLINE COMMENT TOOL AND INTERACTIVE MAP
   The online comment tool and interactive map will be pulled up on a laptop and displayed on a large monitor to demonstrate the tool and allow attendees to enter additional comments. A link to the tool will also available on the project website. See Wikimapping.com/orlandobikeplan.html for details.

2. MENTIMETER SURVEY
   Attendees can access the survey on their phone or on the provided tablet by entering a project code at menti.com. A looping presentation of the live survey results will be displayed on a projector screen. Attendees will also have access to the survey from the link and on the project website until April 23, 2019. The following questions are proposed:

INTRO TEXT: LET US KNOW WHAT YOU THINK - PLEASE TAKE PART IN THIS 13 QUESTION SURVEY. The City of Orlando is updating its bicycle plan to expand and improve conditions and facilities for bicycling throughout the city. This survey was created to give you an active role in the bike plan update.

1. WHICH OF THE FOLLOWING GOALS OF THE BIKE PLAN UPDATE DO YOU FEEL IS MOST IMPORTANT? (choose one)
    - Making bicycling comfortable for all ages & abilities
    - Creating & maintaining a connected, low-stress bikeway network linking key destinations
    - Providing equitable access for all neighborhoods, backgrounds, & income levels
    - Improving safety through engineering, education & enforcement
    - Building a culture of bicycling

2. HOW WOULD YOU RATE THE PRIORITY OF THESE INVESTMENTS? (sliding scale of 0 - 4)
    - Improve connections to trails and bike lanes with neighborhood way-finding and signage
    - Expand the trail network
    - Upgrade existing on-street bike lanes to buffered bike lanes, cycle tracks, and off-street trails
    - Provide easier ways to cross major roads
    - Develop showcase pilot projects (e.g. Curry Ford)
    - Add additional bike parking and repair facilities
    - Expand bicycle safety education programs
    - Hold more City sponsored bicycling events (e.g. temporary street closings for biking events, Bike to Work Day)

3. WHICH OF THE FOLLOWING BEST DESCRIBES YOUR APPROACH TO BICYCLING? (choose one)
    - I prefer to bike on off-street trails. On busier streets, I usually bike on sidewalks even if on-street bike lanes are provided
    - While I generally prefer biking on off-street trails or quiet residential streets, I will bike in on-street bicycle lanes where provided
    - I am comfortable riding in mixed-traffic and will use roads without bike lanes

4. WHICH OF THE FOLLOWING BEST DESCRIBES YOU? (select all that apply)
    - I own a bike
    - I currently use or plan to use bike share in the future
    - Neither

5. HOW OFTEN DO YOU RIDE A BIKE? (choose one)
    - Rarely / Never
    - A couple times a month
    - 1 - 3 times a week
    - Almost everyday

6. HOW OFTEN DO YOU VISIT A BIKE SHOP? (choose one)
    - Rarely / Never
    - Once a year
    - Once every 6 months
    - Every month

7. APPROXIMATELY HOW MUCH MONEY DO YOU SPEND ON BIKE RELATED ITEMS PER YEAR? (E.G. BIKE SHARE, REPAIRS, EQUIPMENT, EVENTS) (choose one)
    - Less than $100
    - $100 - $500
    - $500 - $1000
    - More than $1000

8. WHAT IS YOUR PRIMARY PURPOSE FOR BICYCLING? (choose one)
    - Recreation / Leisure
    - Health
    - Commuting to/from work or school
    - Travel for shopping /entertainment
    - Other

9. HOW LONG ARE YOU GENERALLY WILLING TO BIKE TO REACH WORK, SCHOOL, SHOPPING OR ENTERTAINMENT? (BEFORE OPTING FOR ANOTHER MEANS OF TRANSPORTATION, E.G. CAR, RIDESHARE, BUS))? (choose one)
    - 10 minutes or less

- 10 – 20 minutes
- 20 – 30 minutes
- 30 – 45 minutes
- More than 45 minutes

10. WHAT DO YOU CONSIDER YOUR BIGGEST OBSTACLE TO BIKING MORE OFTEN? (open ended)

11. IN ONE TO THREE WORDS, DESCRIBE YOUR FUTURE VISION FOR BIKING IN ORLANDO (E.G. SAFE, CONVENIENT, CONNECTED). (word cloud)

12. WANT TO BE QUOTED IN THE BIKE PLAN UPDATE? PROVIDE YOUR STATEMENT AND NAME USING 250 WORDS OR LESS. IDEAS INCLUDE: WHY BIKING IS IMPORTANT TO YOU? WHAT BIKING IN ORLANDO IS LIKE TODAY? WHAT DO YOU WANT TO SEE RELATED TO BIKING IN THE FUTURE? (open ended)

13. ADDITIONAL COMMENTS? (open ended)

Est. Activity Duration: 15 minutes

MATERIALS

- Bike lights (20 per meeting)
- Additional copies of the project postcard
- Blank comment forms
- Mentimeter Survey information sign (8½ x 11)
- Pens
- Stamp

3 Public Meeting Locations and Room Layout

The stations will be set up in a circular pattern around the room to facilitate flow.

Each of the three meetings is being held in locations strategically chosen to represent the Northeast, Southeast and Southwest sections of the City. Meeting room locations are pictured below:



Beardall Senior Center



Lake Nona High School Cafeteria



Dr. James R. Smith Neighborhood Center

APPENDIX D

BIKE PLAN UPDATE

THE BIKE PLAN IS THE CITY'S STRATEGIC GUIDE FOR IMPROVING ITS BICYCLING ENVIRONMENT

The updated Plan will include:

- an implementation plan for new off-street paths/trails, on-street bike lanes, and signed routes through 2030
- recommendations for new separated bicycle facility types not within the City's current bikeway network
- bike share program recommendations
- bike parking and way-finding program strategies
- bicycle crash countermeasures and implementation strategies
- non-engineering strategies and program recommendations

PROJECT OVERVIEW

GOAL 1: COMFORT

Make bicycling within the City **comfortable** and convenient for people of a wide range of ages and abilities.

GOAL 2: CONNECTIVITY

Create and maintain an integrated network of low-stress bikeways **connecting** residents to activity centers, schools, workplaces, and regional bikeway networks.

GOAL 3: EQUITY

Ensure that people from **all neighborhoods, backgrounds, abilities, and income levels** in the City have access to bicycling infrastructure and resources.

GOAL 4: SAFETY

Improve the **safety** of people bicycling within the City through engineering, education, and enforcement.

GOAL 5: CULTURE

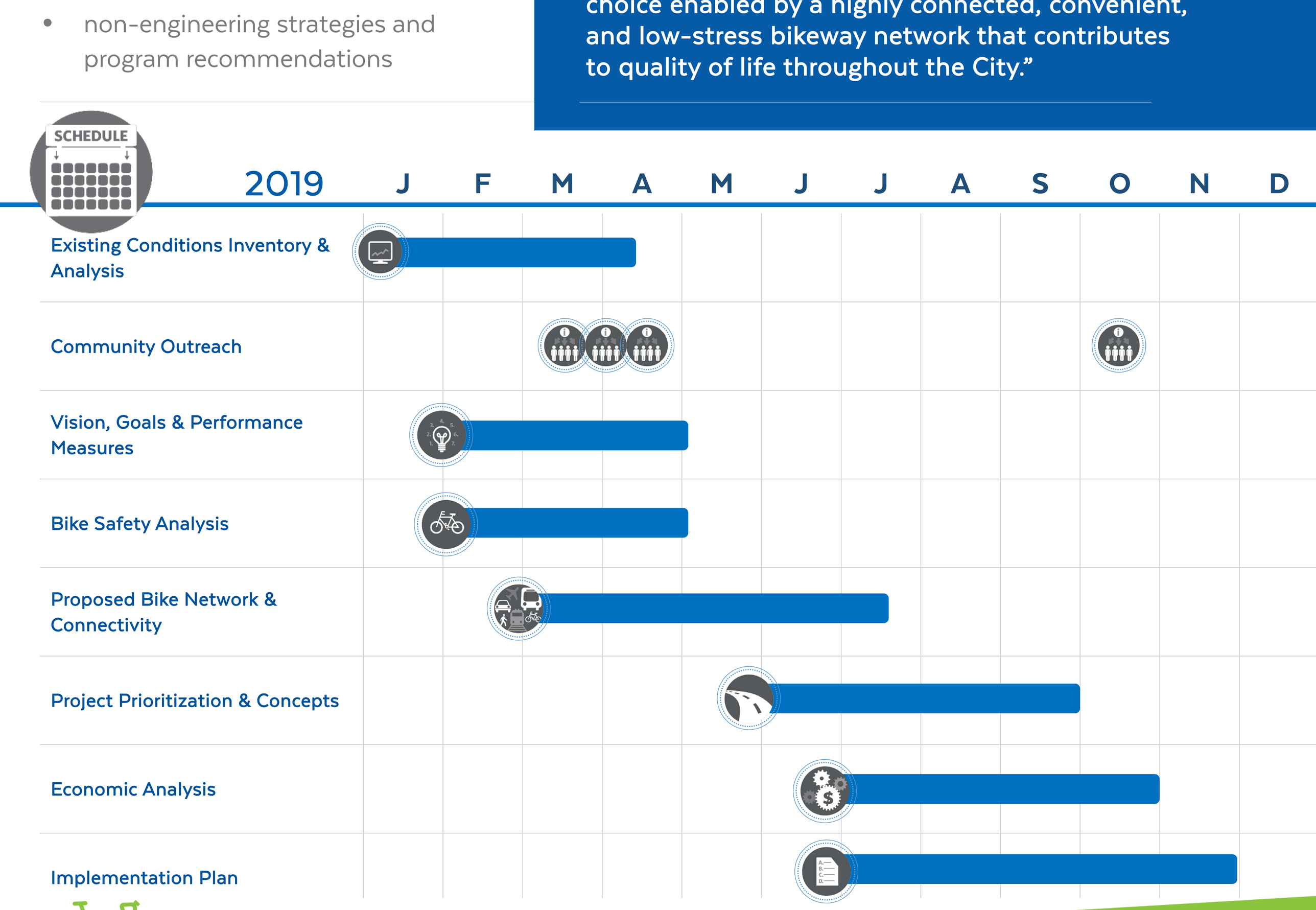
Build a **culture of bicycling** through programs and policies.

VISION STATEMENT

"In the City of Orlando, riding a bicycle is a safe and comfortable experience for residents and visitors of all ages, abilities and backgrounds.

Residents consider bicycling a practical travel choice enabled by a highly connected, convenient, and low-stress bikeway network that contributes to quality of life throughout the City."

SCHEDULE



BIKE PLAN UPDATE

BICYCLING IN ORLANDO BY THE NUMBERS

RIDERSHIP

COMMUTERS

BIKE TO WORK
0.6%

BIKE SHARE

FLEET SIZE
LIME + JUMP
1000

MONTHLY RIDES
26K

OFF-STREET PATHS/TRAILS

1. LAKE EOLA
2. LAKE BALDWIN LOOP
3. GERTRUDE'S WALK

TOP 3

AVERAGE MONTHLY USERS
232K
PEDESTRIANS + BICYLISTS

SOURCES: US CENSUS BUREAU, 2012-2016 AMERICAN COMMUNITY SURVEY 5-YEAR ESTIMATES
CITY OF ORLANDO BICYCLE AND PEDESTRIAN ANNUAL COUNT REPORT, 2017
LIME MONTHLY REPORT, FEBRUARY 2019

INFRASTRUCTURE

1 MOUNTAIN BIKE PARK

5 SHARROW ROUTES

53mi NEIGHBORHOOD SIGNED ROUTES

3 BIKE PARKING CORRALS

8 BIKE WAY-FINDING ROUTES

268mi ON-STREET BIKE LANES

5 BICYCLE REPAIR STATIONS

43mi OFF-STREET PATHS/TRAILS

+7mi TRAILS CURRENTLY IN DEVELOPMENT

NOTE: ON-STREET BIKE LANES REPORTED BY LANE MILES
SOURCE: CITY OF ORLANDO BIKE INVENTORY, SEPT 2018

CULTURE

BRONZE
BICYCLE FRIENDLY COMMUNITY
2016 - 2020
THE LEAGUE OF AMERICAN BICYCLISTS

1 # OF BICYCLE FRIENDLY BUSINESSES
BIKES BEANS & BORDEAUX

1 # OF BICYCLE FRIENDLY UNIVERSITIES
UCF

2 ANNUAL CITY-SPONSORED BICYCLE EVENTS

200+ PARTICIPANTS

SOURCE: THE LEAGUE OF AMERICAN BICYCLISTS, 2016

SAFETY

795 CRASHES INVOLVED A BICYCLIST
2012 - 2017

61% MOTORIST AT FAULT
2012-2017

10% OF CRASHES INVOLVING A BICYCLIST RESULT IN AN INCAPACITATING INJURY OR FATALITY
2012 - 2017

SOURCE: CITY OF ORLANDO DRAFT VISION ZERO STUDY, 2019

INVESTMENT

7mi (1994) → **364mi** (2018)

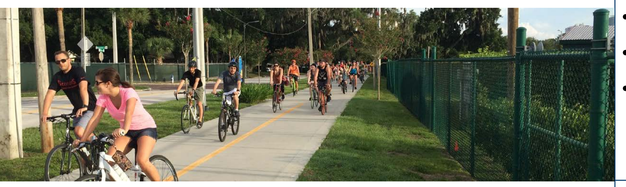
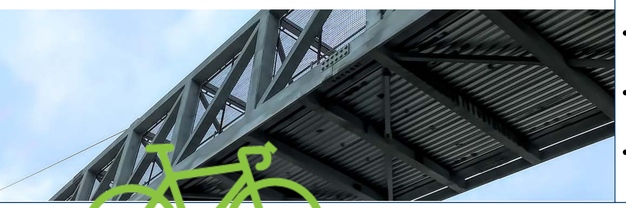
TOTAL MILES OF BIKEWAYS
CONSTRUCTED SINCE THE FIRST ORLANDO BIKE PLAN

12% TRANSPORTATION PLANNING BUDGET SPENT ON BICYCLING

SOURCES: THE LEAGUE OF AMERICAN BICYCLISTS, 2016
CITY OF ORLANDO BIKE INVENTORY, AUG 2001; JUNE 2008; SEPT 2018

BIKE PLAN UPDATE

BIKEWAY DEFINITIONS

TYPE	DESCRIPTION	TYPES OF USERS	COST
ON-STREET BIKE LANES 	• Portion of the street designated for preferential use by bicyclists • One-way facilities that typically carry bicycle traffic in the same direction as adjacent motor vehicle traffic on the left or right side of the street • Reduces stress caused by acceleration and operating speed differentials between bicyclists and motorists • Used on both low-speed roads as well as higher-speed roads	Highly confident and somewhat confident bicyclists (9 – 16% of the population)	$ - $$
NEIGHBORHOOD SIGNED ROUTES 	• Also known as bicycle boulevards, these are low volume and low speed streets that are designated to give bicyclists the priority • Use signs, pavement markings, and traffic calming measures to discourage through trips by motor vehicles and provide bicyclists with enhanced crossing of arterial streets • Sharrow markings can be used to provide guidance to bicyclists and motorists • Way-finding signs encourage bike trips by providing people with a reference point of destinations and travel distances	Bicyclists of all ages and abilities (60 - 72% of the population)	$ - $$
SEPARATED BIKEWAYS 	• Buffered bike lanes increase the riding comfort for bicyclists as they increase separation from vehicle traffic and/or parked vehicles • May be physically protected for bicycles using bollards, parked vehicles, raised curbs, or landscaping/planters • A raised barrier provides added level of separation between travel lane and bicyclist, increasing bicyclist comfort (can be raised to same elevation as adjacent sidewalk or in between sidewalk and adjacent roadway elevation)	Bicyclists of all ages and abilities (60 - 72% of the population)	$ - $$
OFF-STREET PATHS / TRAILS 	• Provides a physically separated facility for bicyclists and pedestrians • May run adjacent to a roadway or on a separate alignment • Usable, safe and welcoming for bicyclists of all ages and abilities	Bicyclists of all ages and abilities (60 - 72% of the population)	$ - $$
GRADE-SEPARATED CROSSINGS 	• Pedestrian and bicyclist-only overpass or underpass over a street or topographical barrier • Allows for uninterrupted flow of pedestrian movement separate from vehicular traffic • Provides complete separation of pedestrians and bicyclists from motor vehicle traffic • Typically applied in locations where defined pedestrian/bicycle desire line that extends across a major barrier	Bicyclists of all ages and abilities (60 - 72% of the population)	$$$

APPENDIX E

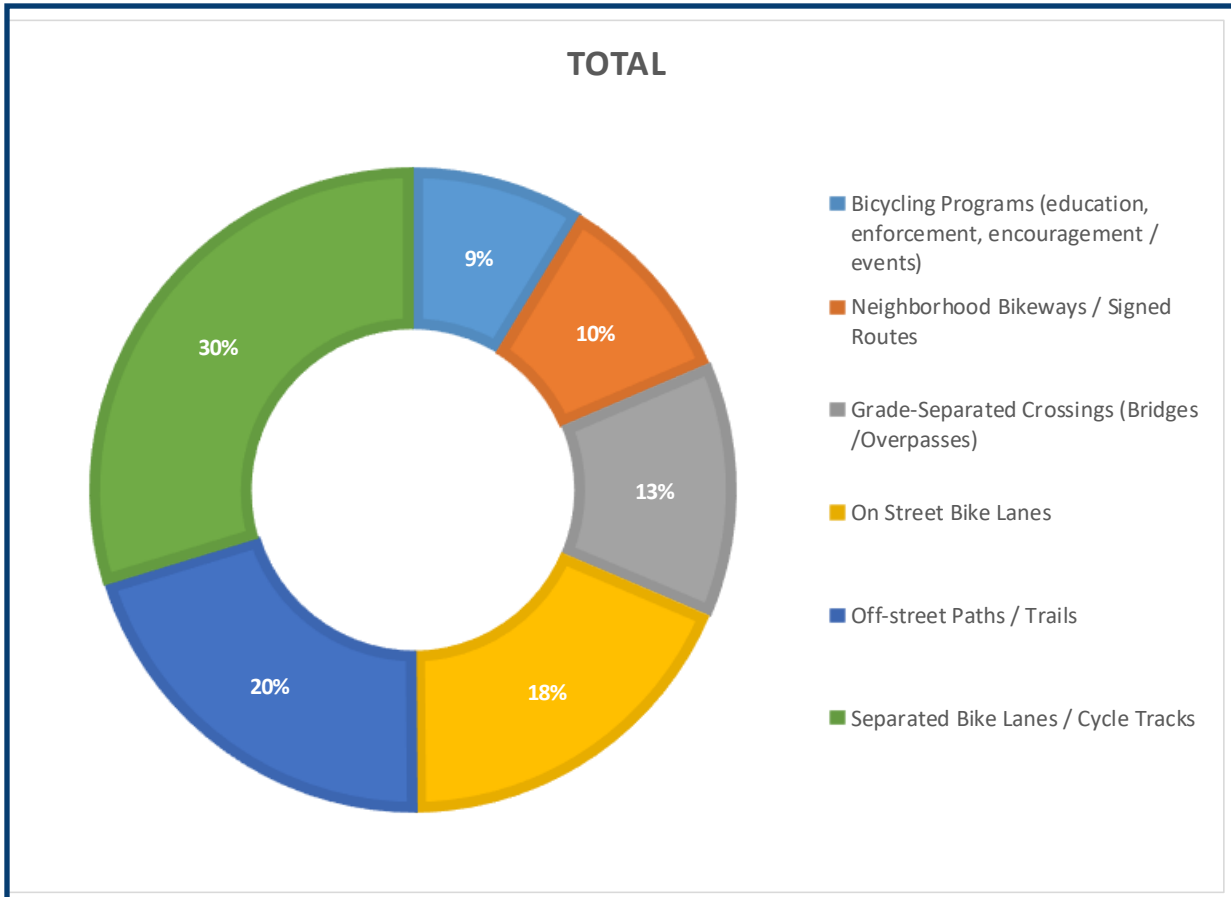

BIKE PLAN UPDATE
EXISTING
BIKEWAYS
MAP
On-Street Bike Lanes
Signed Routes
Off-Street Paths / Trails
City limits

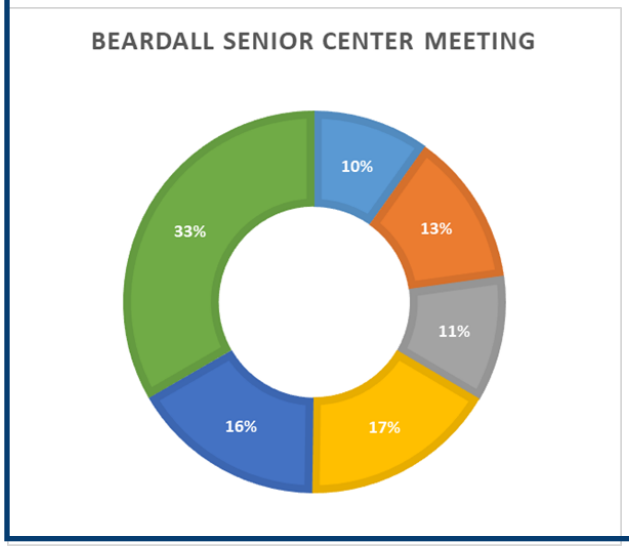
APPENDIX F

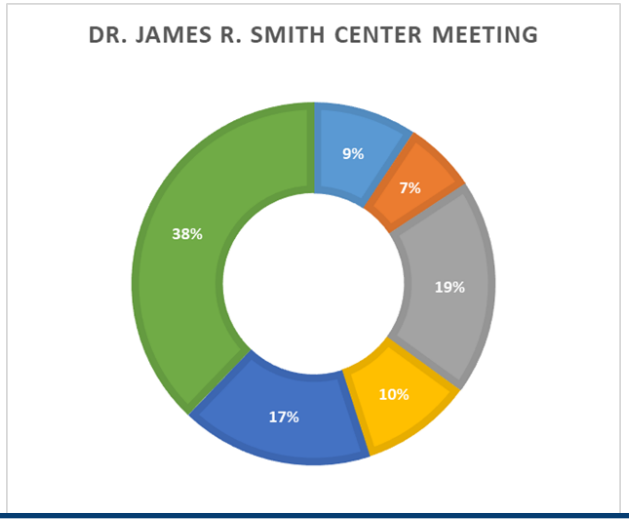
Station 3:

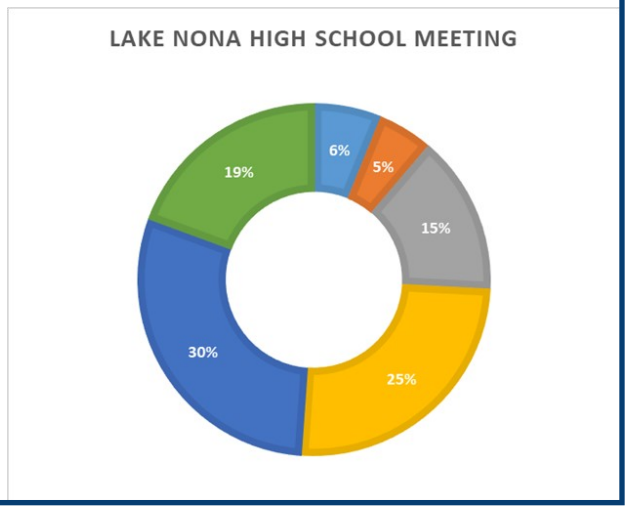
Fund Your Priorities

Results









APPENDIX G

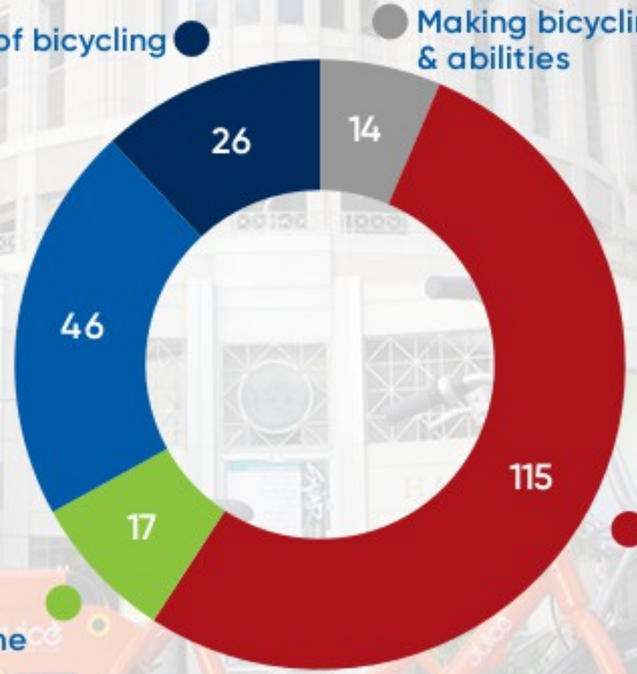
BIKE PLAN UPDATE

LET US KNOW WHAT YOU THINK - PLEASE TAKE PART IN THIS 13 QUESTION SURVEY.

The City of Orlando is updating its bicycle plan to expand and improve conditions and facilities for bicycling throughout the city. This survey was created to give you an active role in the bike plan update.

WHICH OF THE FOLLOWING GOALS OF THE BIKE PLAN UPDATE DO YOU FEEL IS MOST IMPORTANT?

BIKE PLAN UPDATE



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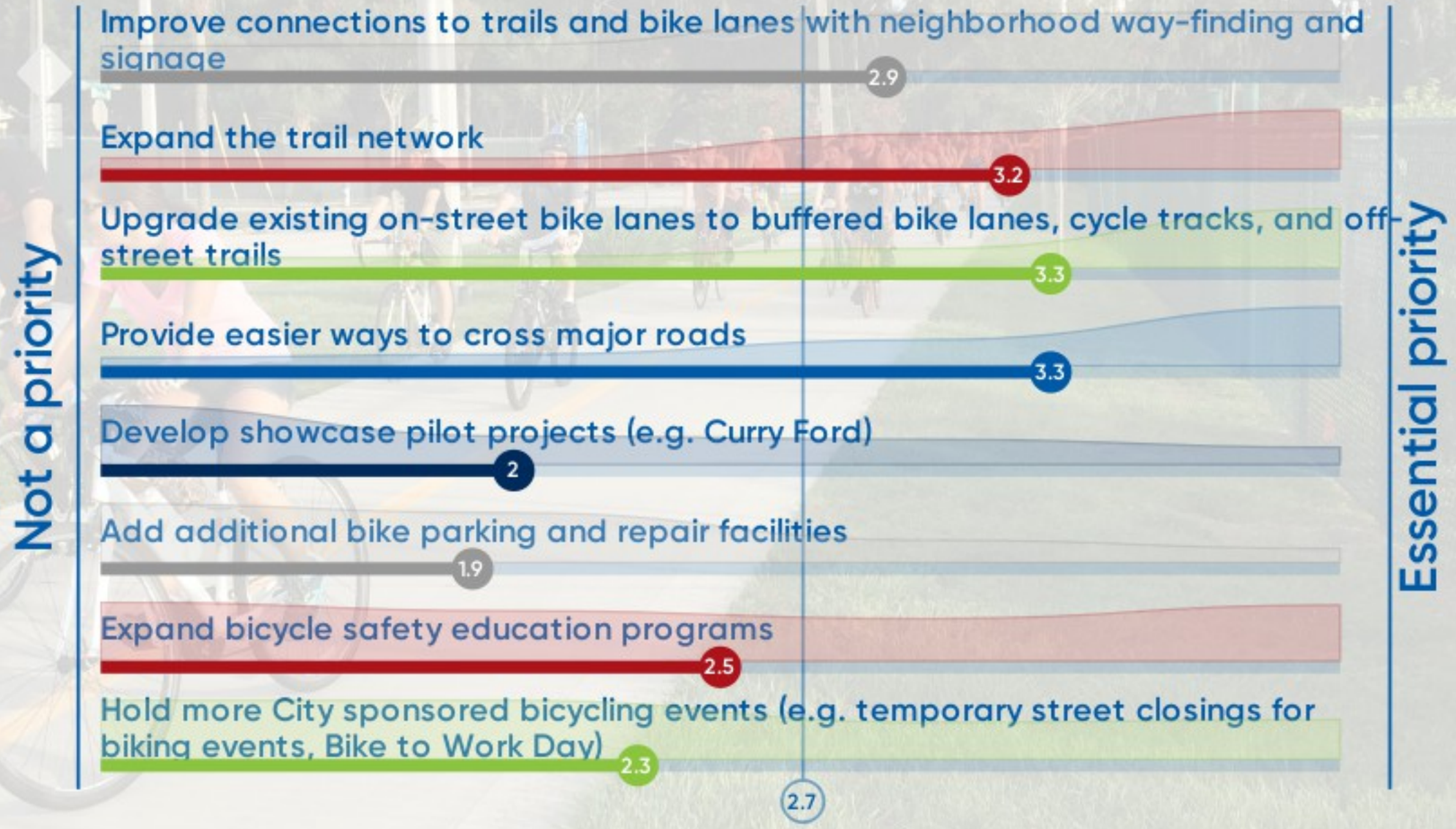
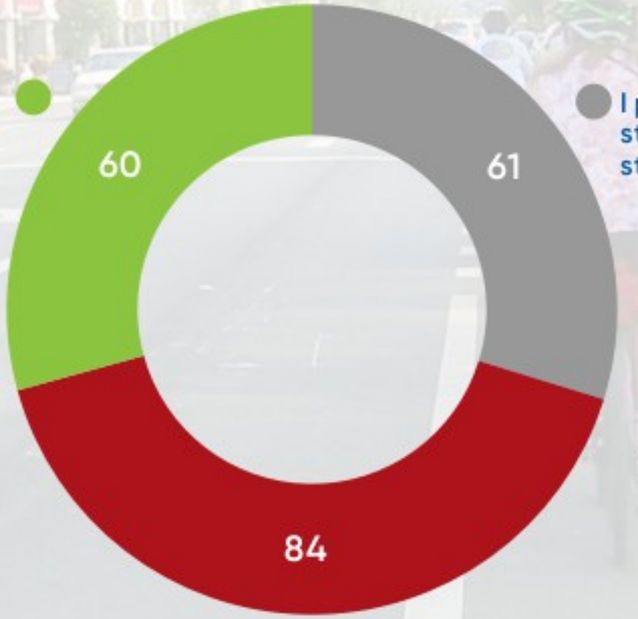
HOW WOULD YOU RATE THE PRIORITY OF THESE INVESTMENTS?

BIKE PLAN UPDATE



WHICH OF THE FOLLOWING BEST DESCRIBES YOUR APPROACH TO BICYCLING?

BIKE PLAN UPDATE



205

WHICH OF THE FOLLOWING BEST DESCRIBES YOU?

BIKE PLAN UPDATE



187

I own a bike



37

I currently use or plan to use bike share in the future



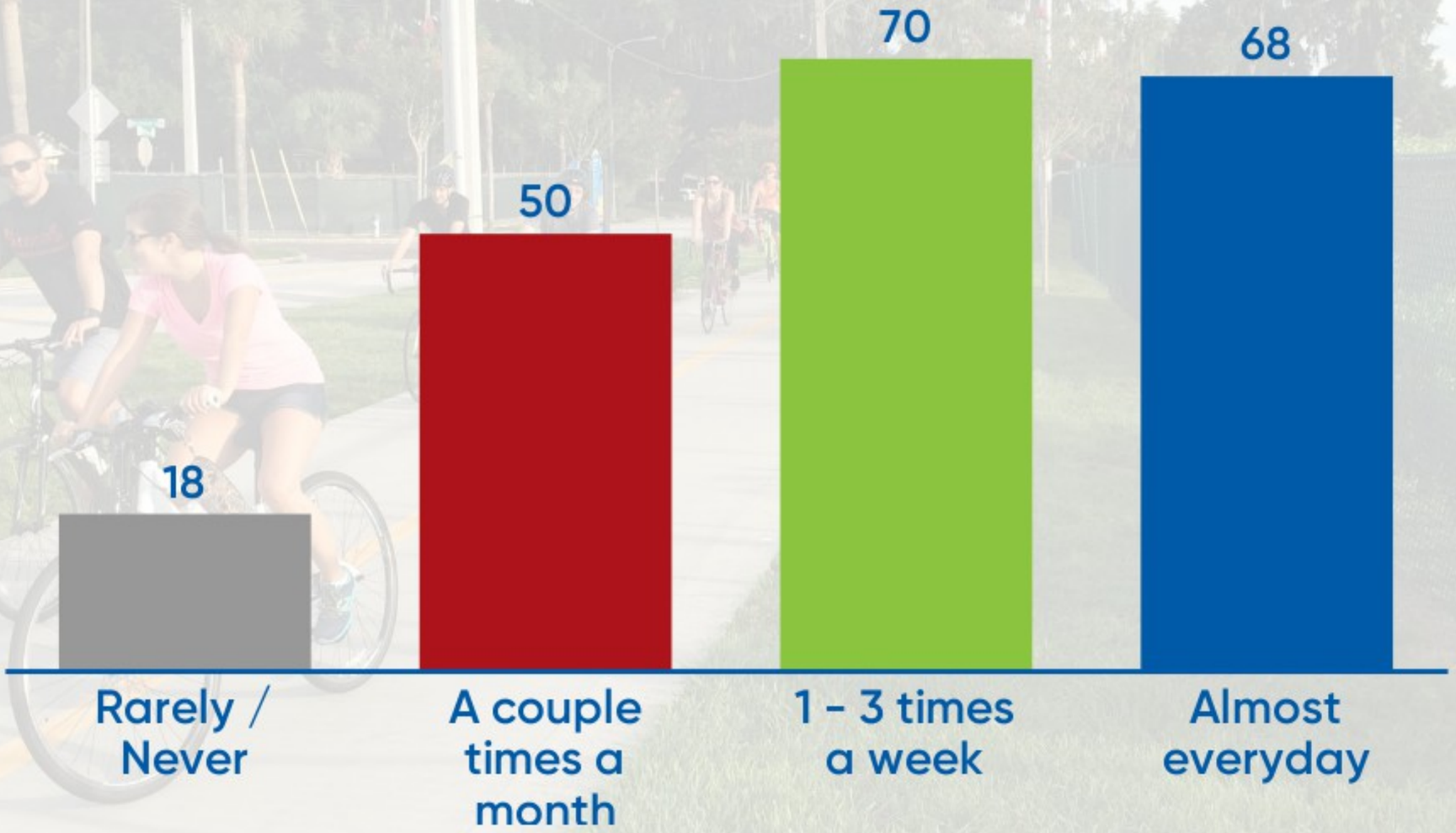
7

Neither

208

HOW OFTEN DO YOU RIDE A BIKE?

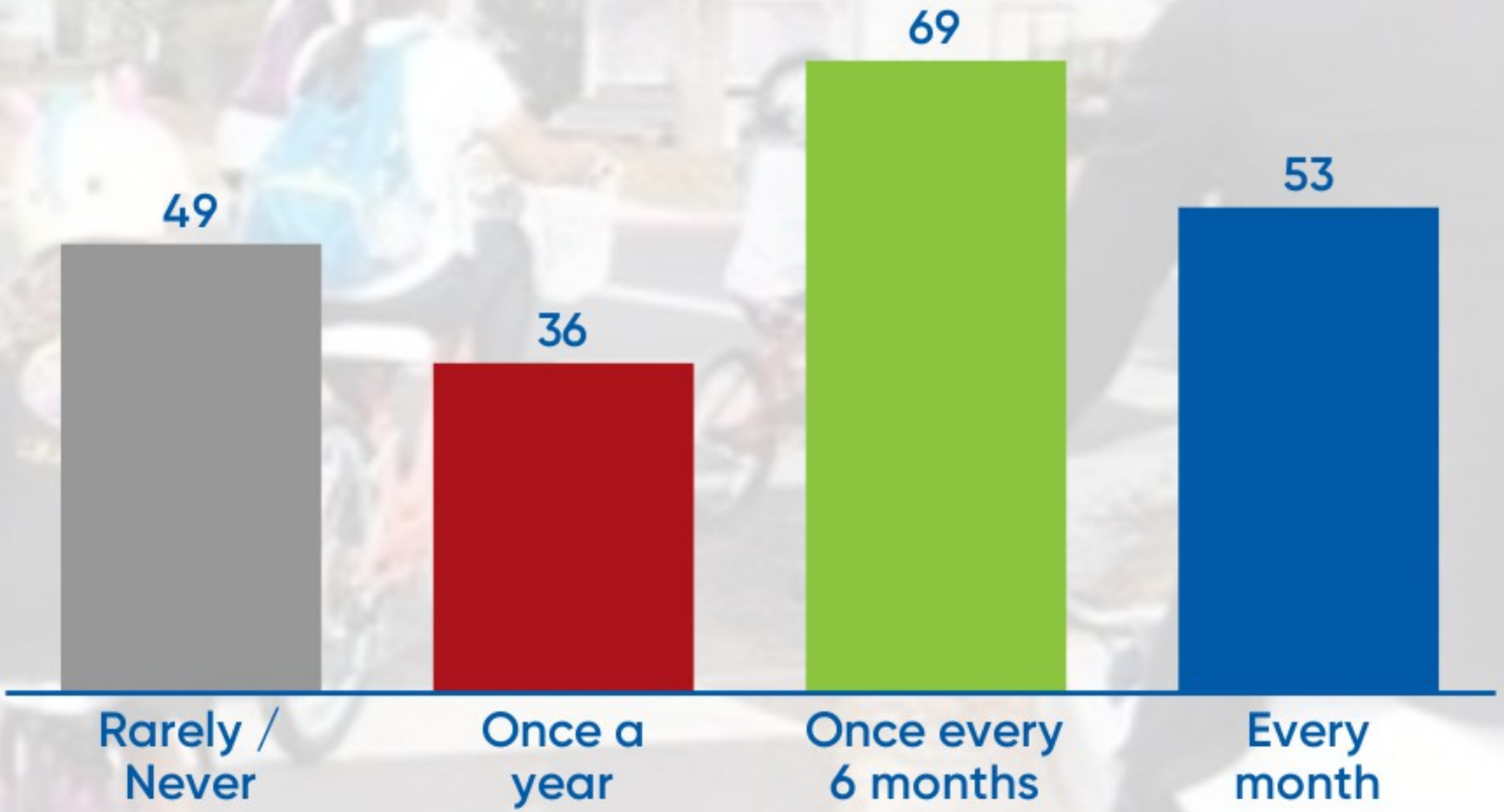
BIKE PLAN UPDATE



206

HOW OFTEN DO YOU VISIT A BIKE SHOP?

BIKE PLAN UPDATE



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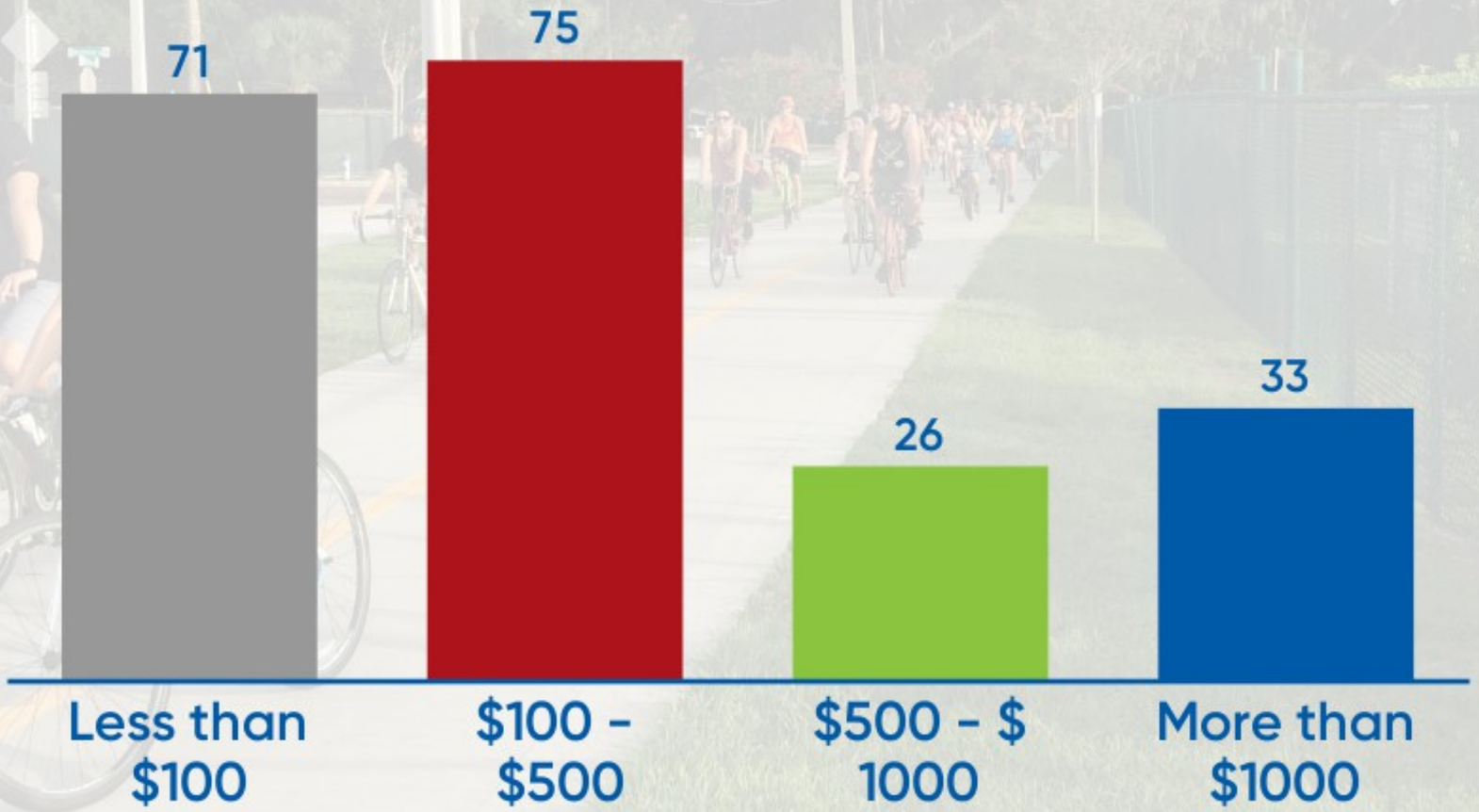
APPROXIMATELY HOW MUCH MONEY DO YOU SPEND ON BIKE RELATED ITEMS PER YEAR?

BIKE PLAN UPDATE



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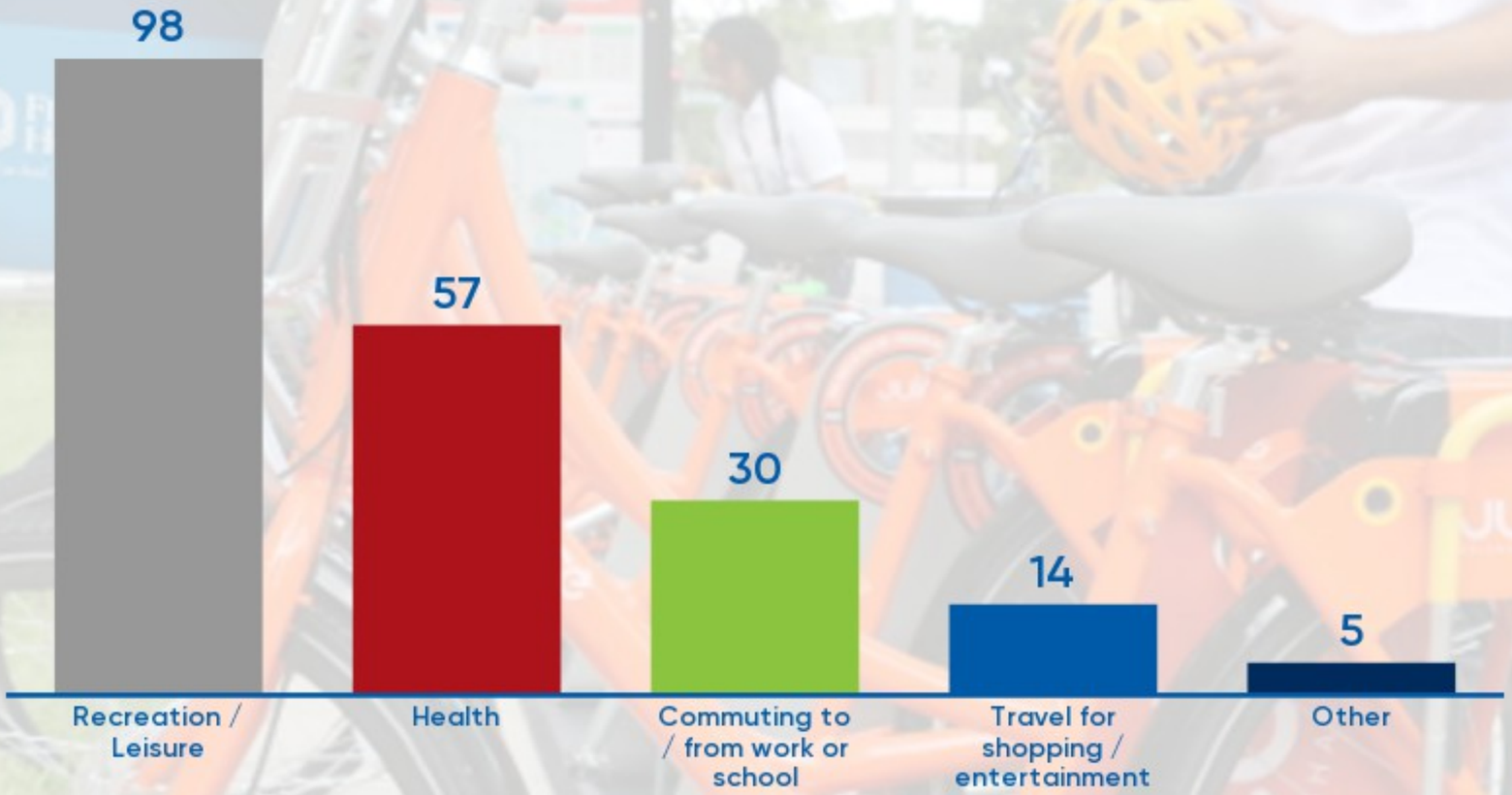
WHAT IS YOUR PRIMARY PURPOSE FOR BICYCLING?

BIKE PLAN UPDATE



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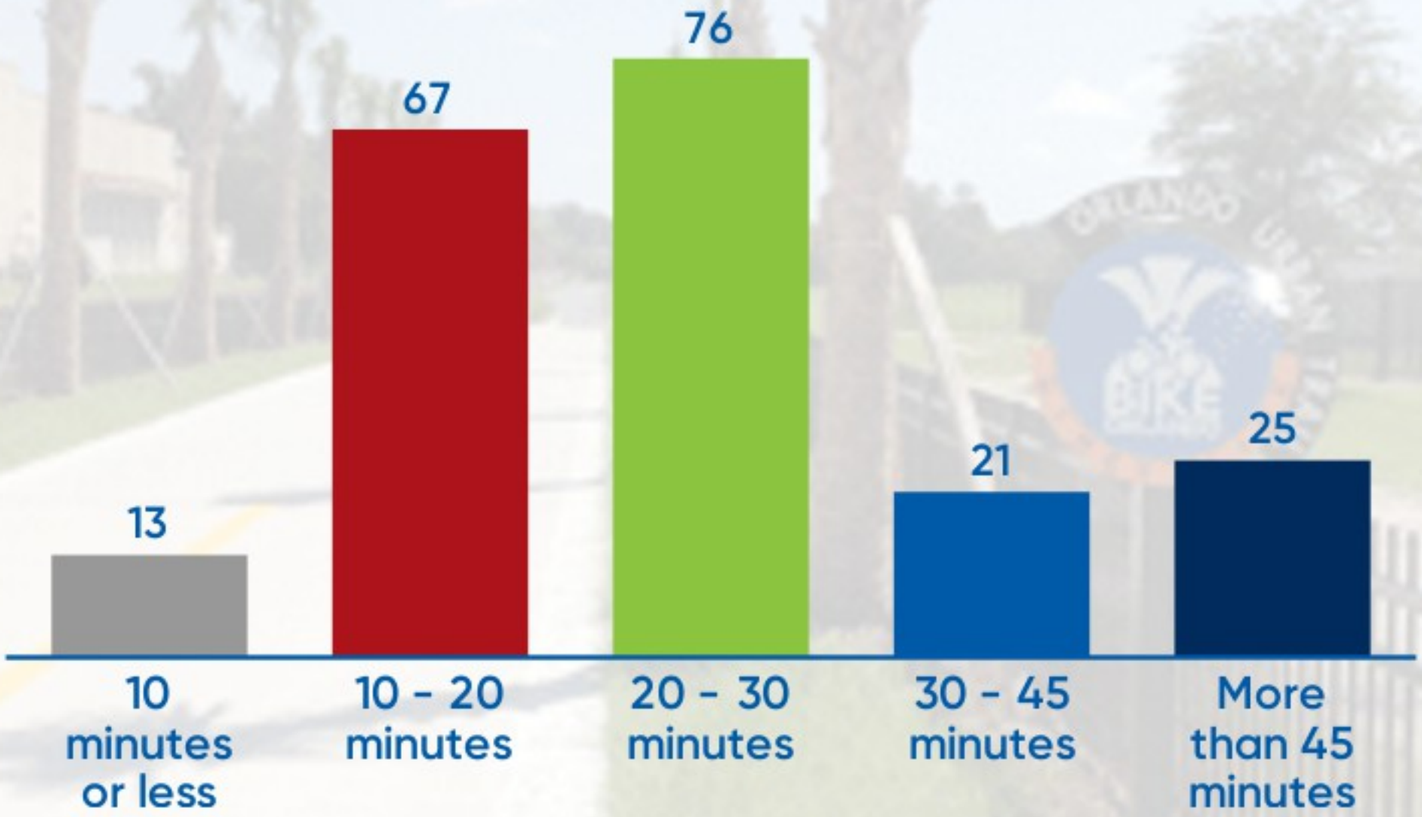
HOW LONG ARE YOU GENERALLY WILLING TO BIKE TO REACH WORK, SCHOOL, SHOPPING OR ENTERTAINMENT?

BIKE PLAN UPDATE



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WHAT DO YOU CONSIDER YOUR BIGGEST OBSTACLE TO BIKING MORE OFTEN?

BIKE PLAN UPDATE

Heat/sun (could be overcome with more tree cover); homicidal/distracted motorists (could be better avoided with protected bike lanes)

the police refuse to bike on the streets themselves and to penalize drivers for illegal anti-bike/pedestrian behavior

Poorly marked trails or directions to trails. Figuring out the safest way to get to a trail to use for recreation.

Orlando is notoriously unsafe for pedestrians and bicyclists alike. I don't feel safe at all.

Traffic. Bike paths/lanes connecting.

The lack of safe and convenient cycle trails.

Feels unsafe in Orlando

crime on trails

Lack of connectivity throughout the city via safe bike trails or bike lanes.

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WHAT DO YOU CONSIDER YOUR BIGGEST OBSTACLE TO BIKING MORE OFTEN?

BIKE PLAN UPDATE

My biggest obstacle is lack of Shaded bike trails and sidewalks in the summer.

It is really difficult to navigate through the city when most of the mayor roads have no over passes

safety on the streets downtown and surrounding areas

I would bike more often if there were more separated cycle paths and trails for my friends and family who feel less comfortable than myself biking in mixed traffic.

Organizing the effort to make proper and use for bike lanes that lead people to The places they would like to go.

Currently safety and respect of bikes on the road. I feel safe riding late at night but during rush hour it's very hit or miss.

Lack of protected bikeways

Lack of adequate bike facilities that match type of road (i.e protected bike lane or cycle track on roads w/ speed limit >35mph

The heat. Need more emphasis on shade. Also lack of education from clueless drivers that have a false sense of entitlement. Bicycles ARE traffic!

WHAT DO YOU CONSIDER YOUR BIGGEST OBSTACLE TO BIKING MORE OFTEN?

BIKE PLAN UPDATE

Safe facilities and adequate bike parking.

The lack of education for drivers.

Facilities for easily traveling on, and parking, cargo bikes

The driving culture. I cannot believe how often I'm given second class status as a biker on the streets. I think the City needs to put in projects that clearly say to everyone "we give equal priority to bikes/peds."

Bad weather, poor driver attitude & education & driving skills

Busy streets and a lack of safety

Fast, wide roads

Lack of safe facilities, especially those that provide some shade. Too many distracted and aggressive drivers. Breaks in the system where there is no safe way to connect one route with another.

Concern for getting hit by cars.

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WHAT DO YOU CONSIDER YOUR BIGGEST OBSTACLE TO BIKING MORE OFTEN?

BIKE PLAN UPDATE

Lack of places to safely park my bike once I get where I'm going. I've had lots of bikes get stolen

More residential bike lanes. Wider bike lanes or buffers.

Safety

Time

The route to work is tight with a narrow bike lane. I've also been honked at and told to "get on the sidewalk", like I don't belong.

Roads aren't safe and not enough trail networks to reach different destinations. It should be like in Europe, it's a cycling country.

the amount of cars that don't share roads with bicyclist's or show respect for bicycles as well as the lack of bike lanes.

Lack of enforcement

Need for more off road paved trails. Make the east west coast trail happen! From here everything else can expand. Great for business and a tourist destination. Access for health and leisure!Also need additional green space priority.

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WHAT DO YOU CONSIDER YOUR BIGGEST OBSTACLE TO BIKING MORE OFTEN?

BIKE PLAN UPDATE

Too hot and not many trails that I can get to without driving

Weather and Safety

Distracted drivers. Crossing major intersections, flow.

I wish the bike lanes connected more. Like the new urban trail overpass doesn't connect to the rest of the urban trail, unless you go against traffic on Orange.

Bike lanes just come to a stop and sidewalks too narrow to ride. Trails also just come to an end and signage to pick up the trail again is almost non existent. Drivers DO NOT know that bikes have bikes have the same right to the traffic lanes

Safety. Car do not respect cyclist or human life. Enforcement of the 3ft rule.

I work downtown and bike lines are great on main roads (Rosalind, etc) but the connecting brick roads are hell on earth. Would love a smoother ride connecting the main roads.

Motorist ignorance of the laws and their dangerous intimidation to cyclists while sharing the roadways

Narrow roads without bike lanes, such as Lake Underhill. I like the idea of "Sharrows" - to alert drivers that bikes have the right to be there. John Tenney, Orlando Runners and Riders

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WHAT DO YOU CONSIDER YOUR BIGGEST OBSTACLE TO BIKING MORE OFTEN?

BIKE PLAN UPDATE

Driver education and responsibility

Danger. Road rage. Security.

Safety toward biking in early mornings and late evenings with limited daylight.

rush hour traffic safe roads

Traffic. Cheapest fix, upgrade existing sidewalk infrastructure for dual usef bikes & peds (like Bumby). Bike lane on SR436, SR50 or 441 is worthless. DO NOT take lanes away from cars. Curry Ford experiment was absurd. Created resentments.

There are not enough safe roads in orlando or to much construction blocking road ways. If there is even a bike lane available it is littered in trash or debris making it unsafe. Even in Lake nona!

Finding time to cycle more. I already ride 125+ miles per week between commuting to work and training in the roads of east Orlando (UCF area). Bike lanes on University, Curry Ford, and routes to Ft Christmas would be great!

The poor bike lanes. Drivers dont care of cyclists safety. I am forced to do mix rides between trail and road. Also trash on both roads make it challenging and incur flats. Wider roads please

Traffic. Most motorists have no idea how to interact with cyclist on the road. This NEEDS to be addressed with department of Motor Vehicles and Department of Transportation. It would be bice to forced education through registration of vehicles.

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WHAT DO YOU CONSIDER YOUR BIGGEST OBSTACLE TO BIKING MORE OFTEN?

BIKE PLAN UPDATE

Cars passing too close (3ft rule) and police not enforcing laws on car drivers but harassing cyclists instead

Safety

The lack of shoulders/bike lanes in higher traffic, two lane roadways.

Not enough bike lanes on streets

Safe access to a bike trail

Bike lanes are filled with debris and un kept. Motorists harrass cyclist and do not follow the three foot law. Police do not enforce laws protecting cyclists. Most officers do not even know the laws for cycling. They argue with us at stop lights .

Not enough roads with shoulders or bike lanes. I'm ok biking on roads with paved shoulders. Rounds like Lake Underhill and Lake Pickett have several large sections with no shoulder or bike lane this makes incredibly unsafe to ride with high speed car

Lack of dedicated bike trails and bike lanes

Bycicle lanes available

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WHAT DO YOU CONSIDER YOUR BIGGEST OBSTACLE TO BIKING MORE OFTEN?

BIKE PLAN UPDATE

Dangerous bike lanes on busy roads. Too risky and scary!!

Uneducated Drivers. They don't know how to pass or when to pass. Many don't believe we are allowed on the road with them. Uneducated Law Enforcement officers as well. Lack of enforcement of existing laws.

The lanes are not marked on West Colonial. Cars will use the bike lane, especially on the corner of North Pine Hills and West Colonial, as a right-hand turn lane. Put up signs and paint pictures of bikes in the bike lanes.

Safety of streets, availability of bike lanes protected from dooring.

Reckless and careless drivers that do not pay attention to those around them

Safety, walking (due to the lack of sidewalks) and biking (due to the lack of bike lanes) in the area can be dangerous and you have to constantly be on the look out. Also, there is a lack of bike racks.

Roads that are not bike friendly. Vehicle traffic.

Safety. I have been hit twice by cars in Orlando. We need separation from potential vehicle collisions.

Time

WHAT DO YOU CONSIDER YOUR BIGGEST OBSTACLE TO BIKING MORE OFTEN?

BIKE PLAN UPDATE

Weather, hot in the summer, cold in the winter. More dedicated and attractive trails. Street biking is dangerous and not enjoyable...except on Sunday morning. We need a master plan and implement.

Lack of bike lanes on roadways. Safety of bikers. Unkept bike lanes

Cars, even with bike lanes, cars, trucks, suv's, all cross into the bike lane and I never see anyone in a vehicle look both ways, people don't walk anymore so the sidewalk is way safer than any bike lane u put down

Trail length and availability and/or safe bike lanes for my commute

Drivers speeding Distracted drivers (mostly on cell phones) Non protected bike lanes where speeds are above 20mph

Bad drivers and trash / debris bike lanes

Not enough bicycle lanes, the existing ones are partially closed and hard to reach without having to cross major roads.

Having to drive to the nearest trailhead

Overall safety. Orlando drivers seem to not care about bike riders and the homeless are fairly aggressive.

WHAT DO YOU CONSIDER YOUR BIGGEST OBSTACLE TO BIKING MORE OFTEN?

BIKE PLAN UPDATE

I do it mostly as a workout, but if the weather isn't optimal, I go to the gym. You can't change the weather for me (right?) so I'd say having more lanes dedicated to bikes (and not mixed use jogging paths)

Total lack of appreciation of the impact of construction activities on existing bike routes. Contractors shut down lanes without notice and force rivers into more dangerous locations, without a thought.

safety

Make driver's aware that we want to get hoe just as weii

Riding in heavy traffic areas and times of day is a major deterrent to riding more for leisure, dining and shopping. If I had safer routes when I could not avoid major roads, I would be much more comfortable

Safe accessible route from home to work that would allow me to commute.

Bike Lanes/Urban Trails closer to Lake Eola

Poor connectivity between various neighborhoods & bike trails. Also, drivers don't understand shared lane laws, often ride around me or try to force me off the road.

Lack of dedicated bike lanes, unsafe traffic

WHAT DO YOU CONSIDER YOUR BIGGEST OBSTACLE TO BIKING MORE OFTEN?

BIKE PLAN UPDATE

Safety

Traffic

SAFETY. Unprotected bike Lanes. Distracted drivers!!

Accessibility. There needs to be more bike friendly roads and trails that connect major parts of the city. For example having biking infrastructure that runs parallel to 408 or i4 would do wonders.

Traffic and safety on busy roads

Proper lanes and shady paths

Road hazards when crossing streets at intersections.

I bike to work, and would like to see more bike friendly options downtown to encourage more people to drive less and bike more.

Availability of bike paths

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WHAT DO YOU CONSIDER YOUR BIGGEST OBSTACLE TO BIKING MORE OFTEN?

BIKE PLAN UPDATE

Ride mostly for exercise currently. Would ride to run errands, get groceries, etc. but I live in Delany park area and that requires crossing Michigan or Orange Ave which is difficult. Also insufficient bike racks at retail locations.

Lack of safe bike routes, would prefer green-striped bike lanes for visibility,

Safety, dedicated trails to get to popular destinations.

Driver!

Other drivers and the lack of connectivity between trails. Eg Bumby ave

No bike lanes between my house and work.

Location of paths in communities

Disconnected network

Unsafe Roads lacking buffered bike lanes

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WHAT DO YOU CONSIDER YOUR BIGGEST OBSTACLE TO BIKING MORE OFTEN?

BIKE PLAN UPDATE

The safety and availability of bike lanes/trails in the area, specifically car and pedestrian related incidents.

Not enough bike trails

Safe and comfortable routes. Connected trails and good wayfinding when trails end.

Traffic is dangerous, the rain in the afternoon and lack of shade

Need more dedicated bike trails.

Safety concerns on non bike lane streets. Unpaved roads/ un-maintained roads. Less educated motorist on what to do and what not to do when sharing roads with bike riders that is potential cause of accidents.

Safety. The roads are not safe to ride on here. I am a competitive cyclist & am used to riding in on roads in major cities.

Time, ride 100 to 150 miles each week, wish I had more time to ride more

Not enough off-street trails.

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WHAT DO YOU CONSIDER YOUR BIGGEST OBSTACLE TO BIKING MORE OFTEN?

BIKE PLAN UPDATE

Convenient easy trails

Lack of bike trails

Unprotected or no bike lanes on busy roads

Lack of safe bike corridors with physically protected lanes. I would love to bike to work, 5 miles away on Narcoossee, but the drivers are too dangerous to even consider at rush hour. I bike the same road on the weekends with a group, in the am.

Cars. Vehicle speeds, breathing in their emissions, their lack of respect for cyclists

My ability to travel distances. By using sidewalks when bike lanes or trails aren't provided, it can take much longer than necessary to travel.

Do not have the infrastructure in MetroWest

Weather (heat, afternoon thunderstorms, etc.) I have commuted to work before, but the weather prevents me from doing it every day and my work does not have facilities like locker room, etc. I usually bike for fitness after work 1-3 times a week.

Safety, would love to cycle more but find inadequate trails. I can't believe Moss Park hasn't got cyclists in mind and not free!!

WHAT DO YOU CONSIDER YOUR BIGGEST OBSTACLE TO BIKING MORE OFTEN?

BIKE PLAN UPDATE

Total lack of control of construction activities on bike use. Lanes closed without notice, construction vehicles parked blocking lanes, contract vehicles speeding on roads, etc

Lack of bike lanes and connected trails

Safety; Not enough shade on biking/walking paths; rates of speeds of vehicles riding alongside cyclists

Inconsiderate auto drivers who make biking on streets (regardless of bike lanes) dangerous.

I am surrounded by major roads and intersections (Semoran, Lk Underhill, Conway) which I do not feel safe riding on so it limits how far I can go on my bike.

The age of my children and needing to be available to get them from school if something happened to them.

Busy schedule, work-related travel

Safety

The safety - because of the set up of bike lanes and sharing the road with cars is in my point of view very dangerous

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WHAT DO YOU CONSIDER YOUR BIGGEST OBSTACLE TO BIKING MORE OFTEN?

BIKE PLAN UPDATE

Lack of bike infrastructure and bike supporting culture.

Lack of bike lanes on busy roads

Safety concerns. Biking around vehicles is dangerous.

Available bike lanes/sidewalks. I live close to the activities I want to bike to, so the distance isn't an issue. But, I get apprehensive if I have to bike on the street with traffic.

The speeds on our roads. Narrow bike lanes. The mixed wayfinding signs (why are brick roads in poor condition in Colonialtown North designated as bike lanes?). People leaving trash cans and yard waste in bike lanes.

I like to ride on trails - and living in Colonial Town South it is very hard to access the Cady Way Trail.

Dangers presented by automobiles

Safety. Should have designated bike lanes,separating bikes and car traffic

Adequate bike lanes. Even dedicated bike lanes have cars driving in them. There is a fear one in the car is not paying attention while I'm in a bike lane. Roads are too busy downtown to bike. Limited area for children to bike downtown.

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WHAT DO YOU CONSIDER YOUR BIGGEST OBSTACLE TO BIKING MORE OFTEN?

BIKE PLAN UPDATE

Safety

busy streets and debris in the bike lane make it a danger to ride on primary roads. I would prefer to have options to ride my bike more but avoid this due to issues with bike lanes.

Limited number of and access to existing multi use trails.

Availability of bikes

I don't bike - road traffic and distracted drivers make Orlando hazardous to my safety and that of cyclists

Afraid of getting killed by speeding cars on Corrine Dr Something desperately needs to be done about the reckless driving on Corrine by Merritt park and Leu Gardens

Time and weather

Fear of getting hit by a car. Motorists don't pay attention and swerve. If there isn't an off street or buffered bike lane I will avoid that area.

Access to safe riding along major roads. The east section of Curry Ford Road, from 417 to Conway, would be my preferred rout to access the City, but it has no provisions for cyclists and I consider it dangerous.

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WHAT DO YOU CONSIDER YOUR BIGGEST OBSTACLE TO BIKING MORE OFTEN?

BIKE PLAN UPDATE

Distracted drivers

Safety in high-traffic streets and areas, such as Colonial Dr or Orange Ave.

Crazy drivers will run me or my kids over!

SAFETY!!! This is number 1. Drivers are so often distracted and drift into the bike lane. It's extremely dangerous and as a cyclist, I can't trust that I'm safe in the bike lane. Bike lanes should be between parking and sidewalks.

Lack of access to safe trails/lanes that connect to places I want to go. I don't feel comfortable in on-street bike lanes. I live off Michigan Ave where drivers take over the on-street bike lanes constantly without being policed.

Local weather (heat, rain) is not conducive to riding to/from work, church, any event where you care how you look on arrival.

Cars

Crazy drivers.

No off road trails near home without going on road a bit. Live in college park. Wish there was an off road trail to link College Park to Cady Way and other trails. Urban Trail near Virginia is too short. Prefer 2-4 hours bike rides.

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WHAT DO YOU CONSIDER YOUR BIGGEST OBSTACLE TO BIKING MORE OFTEN?

BIKE PLAN UPDATE

too hot

Other cities I've visited have bike lanes between the sidewalk and parallel parked cars NOT between the parked cars and traffic.

Lack of bike paths on busy roads, dangerous intersections, and people not looking out for bicycles.

I live off Narcoossee Road. It has become VERY dangerous because of speeders/drivers not being safe. I wish there more safe paths to ride upon.

Dedicated bike trails from my neighborhood.

Time

Distracted and law ignorant, impatient drivers!

Horrible traffic and asshole drivers that are aggressive and run you off the road.

safety. There is a strong disconnect between cyclists and motorists. The safety protocols in place must be enforced. More education for both parties is also helpful.

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WHAT DO YOU CONSIDER YOUR BIGGEST OBSTACLE TO BIKING MORE OFTEN?

BIKE PLAN UPDATE

Sidewalks that run continuously from point A to point B with safe crossing locations.

Traffic of cars. I am a road cyclist, so not comfortable alone . Want to be in a big group.

This city is not pedestrian friendly. It's terrifying to ride.

Both cyclists and drivers are often not educated on the bike laws. Making both knowledgeable through driver education, online, radio, or television advertisements will help. Signage to share the road with bikes would also help.

Crossing busy intersections is stressful and dangerous. I'd be thrilled to connect the bike trail on Crystal Lake Road to Cady Way in Baldwin Park without having to cross over Colonial. It's jusy too dangerous and it's a shame we can't access it

Road safety, failure of drivers to respect road laws in relation to bikes

Lack of trails or protected/divided bike lanes. We will NOT bike in the road even with a regular bike lane or sharrow.

Un-informed drivers.

Too many cars

194

WHAT DO YOU CONSIDER YOUR BIGGEST OBSTACLE TO BIKING MORE OFTEN?

BIKE PLAN UPDATE

Crossing major intersections, summer heat

Not enough bike lanes, not enough respect from cars.

Educating drivers that bicycles can also be on the streets with cars, so they can respect cyclists and given them room to be safe (i.e.: 3-feet rule when passing a bike).

Safety on our roads. Automobiles still rule the roost and bicyclist are vulnerable to severe injury if a crash were to happen. Separated and off-road facilities are a MUST.

I don't care to bike more often. Please make sure the accommodations made for bikes do not further restrict car traffic. Please start enforcing traffic laws for bikes. Get rid of the Lime bikes that are trashing up our city.

Safety

Having anxiety while traveling major roads in fear that I am going to be hit by a car.

Safety on the roads: i.e. extended or protected bike lanes that do not disappear without warning, motorists understanding bike safety/passing, and lack of connected/paved trails.

Lack of public transportation

194

WHAT DO YOU CONSIDER YOUR BIGGEST OBSTACLE TO BIKING MORE OFTEN?

BIKE PLAN UPDATE

The dangerous road conditions. Meaning that cars don't respect or don't know the law about cyclists.

Roads too narrow, cars pass me too closely

Safe connection routes for bicycles between some of our metro areas

Lack of free time.

Lack of awareness from drivers.

194

IN ONE TO THREE WORDS, DESCRIBE YOUR FUTURE VISION FOR BIKING IN ORLANDO (E.G. SAFE, CONVENIENT, CONNECTED).

BIKE PLAN UPDATE


connected
safe
convenient
safe convenient connected
connected community
connected and safe
safe convenient
more dangerous
safe connected
safe and connected
safe and convenient
safe complete network
connectivity
less infrastructure
safe for kids
lifestyle
popular
safer
safety
fun
accessible
ubiquitous
equitable
common
better
unsafe
off main roads
safe for kids
bicycle culture
safe practical beautiful
healthy leisurely fun
safe continuous trails
different bike stations
interconnected system
fitness respect safety
cycling committed town
long distance trails
a great place to bike
everywhere connected
safe accessible long
future freedom family
not just jimmy johns
safe connected safe
protected
smooth
hostile
dedicated
consistent
commuting lifestyle safe
the netherlands
clear concise signage
comfortable connected
connected safe
safe peaceful convenient
lime bike clutter
a connected city
hazardous
drive reducation
connected trails
sharing the road
scary
safe fun
inviting
comfortable
cutting edge safe
safe easy convenient
be like holland
restricted car traffic
convenient and connected
tolerable
crime safe connected
discouraging
safe accessible friendly
protected and encouraged
safe more accessible
safe aware
lack of awareness
continue to ride on trail
connected safe convenient
florida cyclists city
convenient safe connected
dead
connected accessible safe
everyday
safe and connected
safe smart convenient
safer better accessible
safe connected accessible
easily accessible network
convenient and safe
separated from traffic
safe safer connected
easy safe
bike lanes
well marked
bike share
longer trails
community oriented
safe safe safe
safe connected scenic
priority protected safety
safe bike lanes
safe easy access
protected informed accessible
safe convenient enjoyable
bike friendly safety
acceptance
maintain
more trails
more signage
safe typical access
priority safe protected
safe efficient effective
easy organized inclusive
very long trails
add a barrier to bike lan
connected and main mode
separate from cars
mode mix cycling city
safe respect relationship
dedicated trails convenient
simple
shady
normal
way of life
smoother
easy
scenic
quicker
sage
well connected well known
street trails
lime bike eyesores
trails
lit
enforcement
creative
safe
safe use consensus
connected to destinations
lets get serious
shared roadway
showcasing the city
share road safely
safe accessible lit
safe extensive
connected sodo park
safe connected inclusive
community-focused
equal
all day of fun in the sun
confor
friendly
viabl
safe
safe
safe

WANT TO BE QUOTED IN THE BIKE PLAN UPDATE? PROVIDE YOUR STATEMENT AND NAME USING 250 WORDS OR LESS.

BIKE PLAN UPDATE

no

Expanding bicycling options is key to building a sustainable city.

More driver awareness

I want to see Orlando become a place where bikes are seen as a viable, even preferable, transportation mode for everyone, not just enthusiasts or seasoned cyclists. I hope the city considers protected bike lanes in its plans. - Dave Carriere

Biking Brings neighbors together and promotes health and reduces pollution; two things with immeasurable downstream benefits.

It is important to my line of work and I am a lifetime cyclist. Growing the cycling community is my mission.

People will not cycle to work if it is not safe and convenient.

I would love to see less fragmentation in Orlando's bike network. A good system doesn't just get you from point A to point B. It allows you to go from A to C to F to B etc. I would also like to see more infrastructure that prioritizes cyclists.

Nope

105

WANT TO BE QUOTED IN THE BIKE PLAN UPDATE? PROVIDE YOUR STATEMENT AND NAME USING 250 WORDS OR LESS.

BIKE PLAN UPDATE

Biking is in important because it is fun and low cost.

Biking is good for your health, wallet, and the environment. Let's give more Orlandoans a chance to bike.

O

Riding a bike should be so easy that a parent can feel comfortable letting their kids ride a bike. Bikes should not be seen as an alternative form of transportation, but a form of transportation. People shouldn't have an excuse not to ride a bike.

Cycling is fun & healthy. I save fuel, wear/tear on car, no toll fees when cycling. I have 7 bikes. All are used throughout each month to commute to UCF from Delaney Park, off & on road recreation / training.

No

Orlando has sometimes been referred to ask the "Portland of the Southeast," however, we need more funding and emphasis on bike/ped projects to warrant that comparison. Think big to make measurable results! Show the world what the City is capable of.

When I ride I'm usually smiling. When I see other people riding I notice that they are usually smiling.

More bike lanes and safety signs

105

WANT TO BE QUOTED IN THE BIKE PLAN UPDATE? PROVIDE YOUR STATEMENT AND NAME USING 250 WORDS OR LESS.

BIKE PLAN UPDATE

Biking is important to me because I'm healthier, I feel better and because of that I can contribute more to society. My family prospers, I produce better work and I lift people up to be better.

Cars need to respect cyclist and human life. Enforce the 3ft rule.

It's dangerous. Been hit multiple times. Once by OPD cruiser. Many near misses/confrontations. MUST separate 35mph+ traffic lanes from bike lanes. Upgrade sidewalks for dual bike/ped use (Bumby is good example. Curry Ford was bad example).

Keep the bike shares active, they've changed lives downtown. - Joshua

I'd be dead without cycling. It has improved my health and helped me maintain a viable weight. This has to be a multi-pronged approach, combining trails, bike lanes, sharrows and most of all education.

Bike is the ultimate fitness and fun mixed together. I just an hour and a half you can burn 2000 calories. why not? Cycling has a great supportive community whom are usually community advocates to improve your way of life.

No comment

We must remove "automobile privilege" and create a culture of acceptance for cyclists on our streets and roads.

Every road needs to have a bike lane, more bike ways need to be built, education to the masses that bicycles are vehicles too and are allowed on the roads, 3 foot rule instituted and enforced and police to ticket/ arrest people who harass cyclists.

WANT TO BE QUOTED IN THE BIKE PLAN UPDATE? PROVIDE YOUR STATEMENT AND NAME USING 250 WORDS OR LESS.

BIKE PLAN UPDATE

Biking us important to me bc it frees my gypsy spirit in a world of conventionalism. In some ways it makes me angry that I have changed my cycling habits to keep myself safe from motorist scense of entitlement. Normalize cycling for our future

Patrick Green

Cycling tourism is growing rapidly worldwide. Orlando is already a leading destination, building a large network of on and off-road bike paths will increase year-round tourism and commerce while decreasing pollution. Jeremiah Carter

Biking is the future. Cars are done in big cities.

I would love to drive less. I don't bike as much as I would like, I am very concerned about the safety of on-road bike lanes. Orlando's weather makes biking year-round possible. The city's carbon footprint could decrease if more people biked.

Cycling is important for our minds, body, and soul! Biking today has become exceptionally dangerous due to lack of education. Holding motorists responsible and DMV required education need. Clean, maintenanced bike lanes. Police training. -Tom Elbel

It's a great way to enjoy your local community.

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More bike events in Orlando, covering all great Orlando, not only the downtown.

105

WANT TO BE QUOTED IN THE BIKE PLAN UPDATE? PROVIDE YOUR STATEMENT AND NAME USING 250 WORDS OR LESS.

BIKE PLAN UPDATE

In order to attract new people, businesses and ideas, the city must be able to balance the need to keep traffic moving, while providing the public with safe and efficient alternative methods of transportation

Downtown has great destinations but on a bike you don't feel safe because of cars. Not safe on the roads for cyclists.

Biking is the most convenient, healthy (when safe) & affordable, non-pollutant way to commute and move around the city. Building infrastructure becomes urgent with the arrival of lime bikes and similar services.

I would like to see Orlando embrace all of the healthy, environmentally friendly and pleasurable benefits of becoming a safe and friendly bike city. There are parts of this city that can only be truly appreciated by biking and walking.

I do not wish to be quoted

N/a

I moved to Winter Garden largely due to the great biking culture of the downtown area. Riding the West Orange Trail has enriched my life and improved my overall health. I hope that more of the Orlando area can follow this example.

Accelerate the pace for building dedicated trails.

Been biking orlando since 2002, it's important to me because I get to enjoy my surroundings instead of speeding by them, I would like to see more water fountains

105

WANT TO BE QUOTED IN THE BIKE PLAN UPDATE? PROVIDE YOUR STATEMENT AND NAME USING 250 WORDS OR LESS.

BIKE PLAN UPDATE

You have an opportunity to really improve biking for current and future generations. Prioritize and accomplish something sooner than later. Implement the plan, don't over study.

we need a bicycle network that acknowledges that bicycles are neither pedestrians or SUV's. I get run off the road regularly by cars, and I've seen idiots on lime bikes nearly plow old lady's on crosswalks. Look to bicycle city Models like Seattle.

Ability to cross Orange, Michigan, or Anderson-South Street with ease would be awesome!

Biking is important to me because I hate traffic and avoid I-4 at all costs. I've been cycling here for 10 years and as traffic gets worse drivers get more aggressive. We need accessible routes, and education about smart cycling on back roads.

Biking in Orlando is segmented often needing to drive a car with a bike rack to get to a bikeable trail. We need to have major areas connected with dedicated pedestrian trails to make it easier for everyone to get around on a bike. Mike wheat.

Love cycling as exercise, as a group and during races. I would love to see a stronger shared roadway culture in Orlando.

Engineer safe convenient places to ride; Share skills to develop more confident bike riders; Encourage and celebrate bike riding; Enact legislation to make road use safer for bike riders; Plan for bicycling as safe viable transportation option.

I will like to see bike lanes on all major roads that will give people the opportunity to move around the city safely. Luis Sosa

Biking in Orlando today is far from my first option. Biking is important because it encourages a healthy lifestyle, friendly infrastructure developments, and a more connected community.

WANT TO BE QUOTED IN THE BIKE PLAN UPDATE? PROVIDE YOUR STATEMENT AND NAME USING 250 WORDS OR LESS.

BIKE PLAN UPDATE

Connect disjointed pieces. Ensure crossings are well lit and signed. Be consistent with enforcement.

Biking should be a viable and safe option for residents of Orlando to opt into more easily.

Training to educate drivers of all ages is needed to increase awareness of how to share the road with cyclists and knowledge of state laws for drivers concerning sharing the road.

The paths along Aloma Avenue-parallel-are ideal and would greatly enhance all trails. Many, many more people would commute this way! K White

I love cycling & the Florida weather. Improve safety so more people can get out and ride,!

Biking solves all the problems people talk about and tend not to do anything about -- more exercise, less traffic, smaller carbon footprint, community engagement, lower costs.

I would like to see more bike lanes on major roads, and also dedicated places to park bikes. The Lime E bikes parked everywhere makes the city look disorganized and impedes foot traffic on sidewalks.

Need to build more bike trails

Innovative

WANT TO BE QUOTED IN THE BIKE PLAN UPDATE? PROVIDE YOUR STATEMENT AND NAME USING 250 WORDS OR LESS.

BIKE PLAN UPDATE

I want to see connected bike trails.

Love to be outside and enjoy the nature of Orlando

Biking is freeing. It is fun, healthy, and functional as a mode of transportation. Biking in Orlando, has room to improve as a leader in cycling inclusion and infrastructure and education. People want to be active, but only if it's safe Dan Wilson

MetroWest has requested to be looped into the bike trail for over 3 years now. We and Valencia college need to be included.

Biking on existing infrastucture has vastly improved lately, however, we are lacking key connected network of trails and there are many gaps that need to be filled in first to create a network to be the backbone. Users can then branch out from there.

Reduce traffic on roads, acquainted with city, local access and exercise, high quality of life

Orlando could be a great place for nature trails, we have beautiful areas that most people pass by, we need to incorporate a healthy lifestyle and cost free environment, people can learn and appreciate the value of the unique environment and benefit

Please make sure that your code reviews are aware of the impact of construction activities on bike use.

I don't want to publish a statement.

105

WANT TO BE QUOTED IN THE BIKE PLAN UPDATE? PROVIDE YOUR STATEMENT AND NAME USING 250 WORDS OR LESS.

BIKE PLAN UPDATE

N/A

No thank you

Orlando is a great community, with friendly people, and some of the best weather in the country. I think being pedestrian friendly, and bike accessible helps bring us closer, keeps us healthier, and lets us enjoy the Florida sunshine all year long

I want to be able to go on longer rides and feel safe from injury

Biking in Orlando is concerning because unmanaged vehicle driver rates of speed, density of vehicles on the roads, and aggressive driver behavior. Pedestrians and cyclists are disregarded by vehicle drivers. Address existing, known traffic problems.

Protected bikeways, and mixed use paths, would showcase Orlando's quality park system and increase pedestrian traffic in core neighborhoods.

Biking is environmentally friendly. It is dangerous in Orlando at certain times of day. More enforcement of bike safety. Ticketing and confiscation of drivers who deliberately attempt to hurt or scare cyclists.

No

Riding a bicycle is not like it was when I was a child 20-25 years ago. Those in cars are not focused enough to be attentive to those on bicycles. And those on bikes do not follow the rules. I would hope both sides could learn to share the road

105

WANT TO BE QUOTED IN THE BIKE PLAN UPDATE? PROVIDE YOUR STATEMENT AND NAME USING 250 WORDS OR LESS.

BIKE PLAN UPDATE

Better for the environment, traffic congestion, health, and culture of Orlando.

In searching for a home in the downtown Orlando area, high on our list was proximity to the CadyWay trail and its connectivity to longer distance trails.

We live in a climate conducive to year round bicycling. With the areas rapid growth and congestion of local roads, creating a culture of cycling makes sense for the health and wellbeing of the citizens.

We should look at how a big city like Chicago integrates bike paths for easy commuting and visiting tourist sites-Peter

Nope

I currently use winding back roads to get to my main street district stores. My hope is to have more direct access to local shops on my bike which not only promotes green transportation but encourages economic growth. -Alexis Sammons

Orlando has great options for biking but the trails are not convenient. So, I tend to ride near home. The challenge with riding in the bike lanes is the debris, which makes them unsafe. I would like either more connected trails or safe lanes.

Vehicles need to be more aware of bikers and respect the bike lanes. I'd like to see bike lanes on most streets. I frequently ride the Urban trail, Dinky, Cady Way and Lake Baldwin. Crossing Colonial on Maguire is scary. Amy Brock

With the population of the downtown core growing, we need to think about how people will use spaces and put less focus on cars. Biking as a primary mode of transportation will increase safety, Heath and community connections.

WANT TO BE QUOTED IN THE BIKE PLAN UPDATE? PROVIDE YOUR STATEMENT AND NAME USING 250 WORDS OR LESS.

BIKE PLAN UPDATE

Orlando car traffic is exploding. Being able to safely navigate this city by bike would make Orlando a more enjoyable place to live and get around.

Orlando is lucky in ways other cities are not. We have many roads that parallel each other both North and South, this give us that ride, many alternative avenues to travel without using the main roads. proper clear signage though neighborhoods FIXT!

Connectivity and safety are prime.

Biking in Orlando now is unsafe. Drivers are distracted and or don't like having to wait 30 seconds to pass cyclist. Cyclists can be part of the problem too by not following the rules of the road. Roadways need to be improved for safety too.

Cycling has improved my health, lifestyle and people networking. Cycling in Orlando is extremely dangerous/life threatening due to distracted driving and law ignorant drivers. Would love to see more bike lanes and driver education programs!JDel Valle

I do group rides with Seminole Cyclists and other clubs. I would love to be able to ride the Sunrail from Seminole County to the Winter Park train station and then bike to work. But it doesn't seem safe with the way traffic is going down Fairbanks.

Safe easy assess to bike trails close by

With so much traffic congesting our roads - we need to alleviate stresses by making biking a priority in our city beautiful! Safety! Connectivity! Fun for all!

The citizens of Orlando want a safe, dedicated bike trail system to enjoy the city. Obstacles include crossing major roads safely, and connecting trail systems to create one large bike trail system. If it was easy and safe, more people would cycle.

WANT TO BE QUOTED IN THE BIKE PLAN UPDATE? PROVIDE YOUR STATEMENT AND NAME USING 250 WORDS OR LESS.

BIKE PLAN UPDATE

Biking can increase the health of the community not only because of the physical activity but spending more time outdoors away from screens.

biking is a fun and convenient mode of transportation, globally connected and environmentally friendly. Let's bike!

Biking is an essential means to reduce our autodependcy, thereby reducing financial burdens and pollution, all while and increasing overall health and well-being in our communities.

The city should reduce taxes rather than make expensive changes that limit car traffic and only appeal to a vocal minority. What percent of Orlando citizens agree that the bike changes will be money well spent?

It is great that the city is getting involved so cycling is safer, bigger and part of getting around. We should be an example city where people want to come here to ride their bikes, either downtown or on the roads, and feel safe doing so.

If You make it safer And more convenient, more people will ride bikes. People will become healthier, there be less vehicular traffic, And people will learn that they do not need cars for every trip

ADDITIONAL COMMENTS?

BIKE PLAN UPDATE

Multi-use trails, such as those on N. Bumby Ave. and Denning Drive in Winter Park, can be more dangerous for cyclists than riding on the road. Cars turning off and on the roads are not looking at the trail. Please build bike lanes instead.

Cycling connectivity should be park of the review of every major development in the same way that traffic studies are required.

Connect east side and west side better

The plan should incorporate driver education. Drivers are on their cellphones or have NO idea the laws of giving bicyclists and peds the right out way.

.

No need for hand rails like the ones by the Science Center. Spend the money wisely

Get rid of Lime bikes!!!

Please work with Orange County to close the SHORT gap in the Econ Greenway trail/Cady Way

Thank you.

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ADDITIONAL COMMENTS?

BIKE PLAN UPDATE

Bicycles on sidewalks is rude to people who walk, have a stroller, wheelchair. Drunk riders, etc on sidewalks its an awful idea.

Biking is not just recreational. Riding a bike helps generate money to local businesses. Trails are cool, but routes near businesses are key to a successful city. It should feel so easy that even a child can ride to the store to get some eggs.

We need to ensure adequate resources for bike/ped projects. I understand roads need money/funding, but it's nowhere near equitable between the two modes currently. Allocate more money for transit/biking from roads.

I would offer to be on community sounding board for future planning.

We need to have places to park bikes. The city put in racks when they built the Amway Center but they use the racks as a place to store equipment

Bike lanes on central

happy to see the city updating a much needed bicycle plan!

None

Ni

ADDITIONAL COMMENTS?

BIKE PLAN UPDATE

I want to see a a safe cycling network connecting different parts of Orlando better.

You may contact me at orlandorunride.org for more input and volunteers

Please clean the existing bike lanes! its getting worse and worse making it unsafe and more difficult. I would build dedicated bike trails to connect your major living areas. IE lake nona to baldwin etc.

More lime bikes

Good questions

We need the State of Florida Department of Transportation as well as Motor Vehicles cooperation in a mass education effort. Motorist you have no interest in cycling will continue to keep overlooking the laws as long as we let them

The city needs to take pedestrian safety seriously. The city's current lack of actions are louder than words.

DO NOT take existing lanes away from cars. Curry Ford fiasco did much damage to car/bike relationships.

Orlando is growing

ADDITIONAL COMMENTS?

BIKE PLAN UPDATE

None

There is zero respect on the roads for cyclist by the community and police. Steeper more costly punishments need put in place. DMV tests to motorists are a must.

Bicycling is the sport that keep me in good health!

The bike sharing businesses that are popping up around Orlando should be encouraged. We have two bikes and rent additional bikes when friends visit so we can show the beauty of the area we live in.

None

NO

Masterplan the community for all forms of transportation including mass transit. One agency charged with this assignment. One funding source.

People will use their own bikes and rental e-bikes whether or not trails are available. Building and maintaining trails will be a great way to reduce the number of future accidents and promote bicycling.

N/a

ADDITIONAL COMMENTS?

BIKE PLAN UPDATE

No

Florida needs stronger laws related to distracted driving. FL lawmakers have not enacted laws that have been widely adopted by other states that would allow more proactive enforcement including a primary enforcement texting ban.

none

Thank you.

No

none

Police should be aware of cycling laws. That said, we should create some common sense bike laws to protect cyclists, and advertise those laws to drivers. This only works when laws are enforced. Police should also take reports of aggression seriously

Promote biking as a way of life, and less cars will be on the streets

Testing

ADDITIONAL COMMENTS?

BIKE PLAN UPDATE

Continue to engage the community

Improve safety please

Build more cycling facilities similar to the pump track and mountain bike course at Druid Park. This is a great partnership between the city and a cycling club which helps maintain it. This needs to duplicated in more places for kids and adults.

Don't count out studies like Curry Ford even if there's a vocal minority against it.

Continue to build more dedicated trails

Find the dollars to create a PSA safety campaign to educate drivers about how to share the road with cyclists. Watch the 3 feet video on YouTube produced by the Orange County Transit Authority in Califonia.

The area is getting much better than it was. While wide trail systems are appreciated, narrower trail connections are fine where there are fewer users. Making biking a part of the culture is a must since drivers don't anticipate bikers enough.

More bike paths,

Connect the existing trails, improve wayfinding of bicycle compatible streets so there is a comfortable network that attracts useful and enjoyable trips.

ADDITIONAL COMMENTS?

BIKE PLAN UPDATE

Find the dollars to send a traveling clinic to all OCPS schools to educate students about bicycle safety, health benefits and importance of wearing a helmet. You have scores of road cyclists in the city that would volunteer their time as presenters.

Hope to see improvement in biking communities sooner than in the near future

Physically protected lanes and major corridors is essential, as well as driver enforcement with distracted driving and 3 ft law

We have a lot to offer in MetroWest and being able to bike to all destinations would be a value and benefit to our community

To emphasize: We will NOT bicycle on a road, whether there is a painted biuke land line or not. Too dangerous.

Thank you for trying to improve our cycling options throughout the city. Creating a full network and utilizing safer options for it such as off-street dedicated trails with lighted crossings, separated lanes and overpasses will lead to more users!

No

I don't want to be quoted publicly.

None

ADDITIONAL COMMENTS?

BIKE PLAN UPDATE

Orlando unfortunately has become money oriented, everything costs to see and do family things to do. Little is done for free and cheap options, its disappointing that Moss Park charges, other parks in Florida are free, Orlando needs to reconsider

Please address traffic issues before adding another variable into the mix.

Cops could make a ton of money on tickets if they'd sit at Merritt Park drive corner on Corrine or at the bend at Leu Gardens

N/A

If biking safety improvements could also help pedestrian safety, that would be great!

Keep up the good work. I used the Colonial pedi-bike bridge yesterday. Homeless people without bikes are concerning. I'm a small woman and have been robbed and assaulted in the past. I don't want my bike stolen or me getting injured

None

Mo

N/A

ADDITIONAL COMMENTS?

BIKE PLAN UPDATE

The Curry Ford Rd "test" was a disaster. Leave it alone! There are not enough bike riders to justify tampering with a major road when the bikes can easily be routed thru side streets.

My wife and I both use cycling for exercise. We are a cross between recreational and "speed" riders. We feel limited to our neighborhood due to unsafe conditions on the major roads with nor paths.

N/A

use the neighborhood roads that exist now that have minimal traffic, clearly mark and ADVERTISE they are there, we have a unique opportunity to spend our dollars wisely and get a lot more bang for the buck. TRY not to invent the wheel...

Please, please, educate drivers through TV, radio and social media about respecting cyclists rights and laws. Educate cyclists about obeying such laws. Stricter laws for driver vs cyclists and pedestrians accidents.

safe

More bike paths, more bike racks, more bike share, and more safety

Thank you for your continued efforts.

Safety is my number 1 concern when cars seem to rule the roads

ADDITIONAL COMMENTS?

BIKE PLAN UPDATE

Thanks so much! Let's make Orlando a bike friendly City and set the bar for other neighboring municipalities to do the same!

Are you sure there is a widespread demand (not just the vocal few) for the changes in the bike plan. The surveys don't ask if we want a bike plan. The multiple choice options are all in support of the bike plan.

Please do something about the Lime bikes that are cluttering up the city. They are an eyesore.

None

Please don't restrict traffic to accommodate the bike minority. There are rarely bikes in the existing bike lanes.

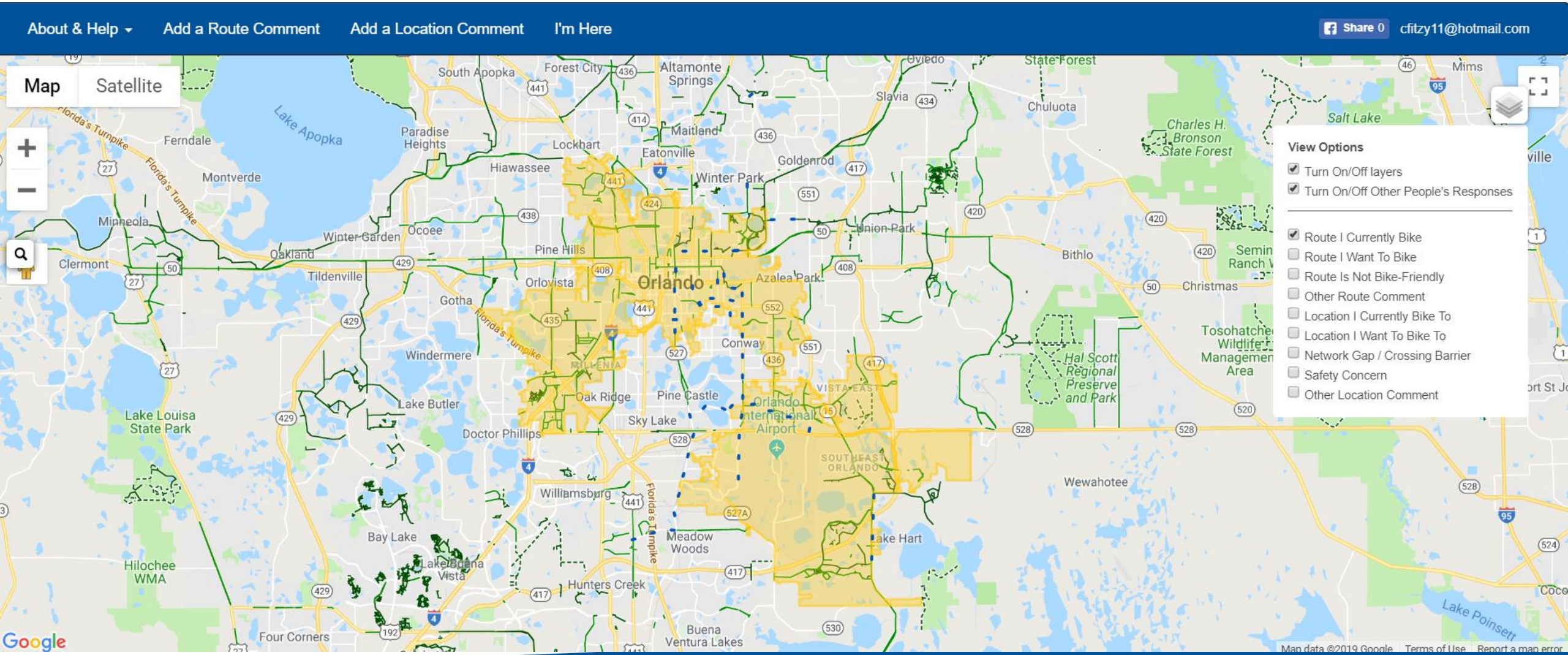
The test that you completed in Conway, was unreal lustik. You do not allow the time for people to adapt to these safer riding in that area nor is there any connecting safe ways to get there.

BIKE PLAN UPDATE

Online Mapping Tool Results

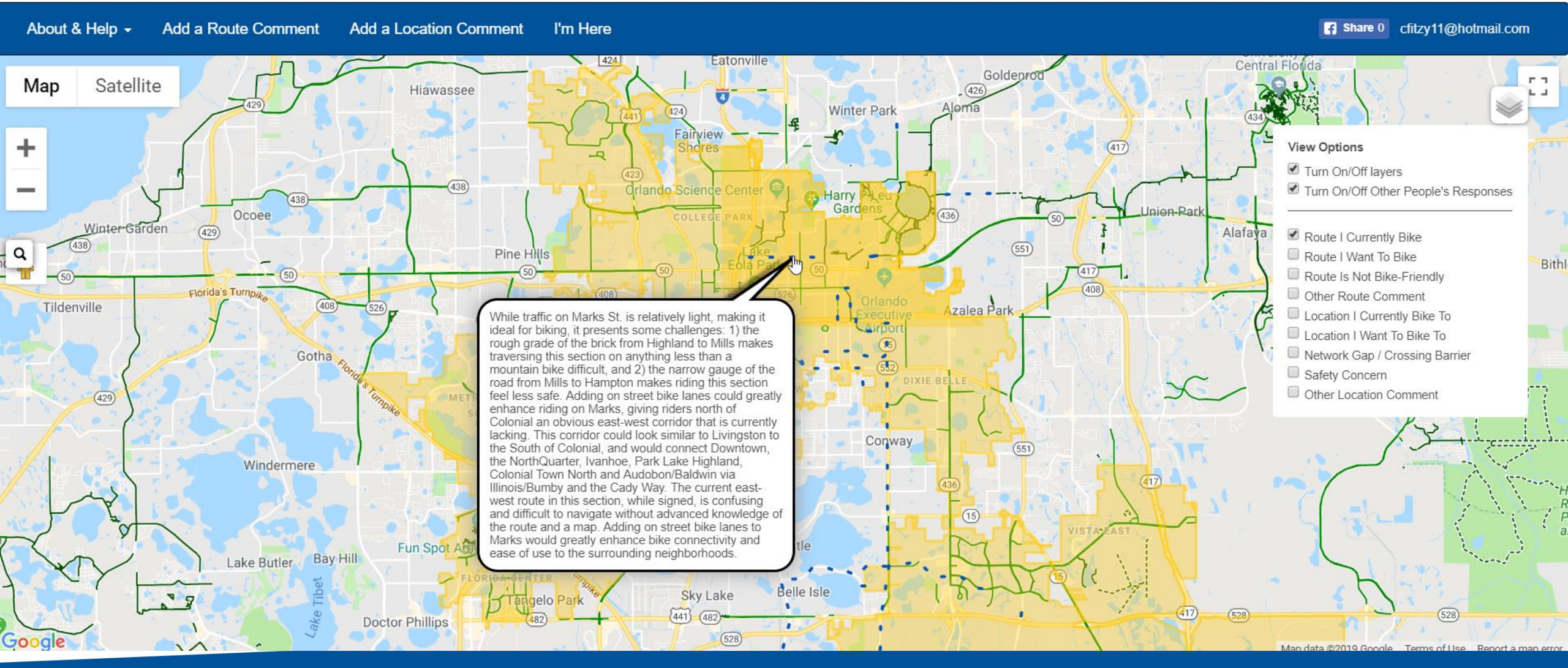


BIKE PLAN UPDATE



Routes I Currently Bike

BIKE PLAN UPDATE



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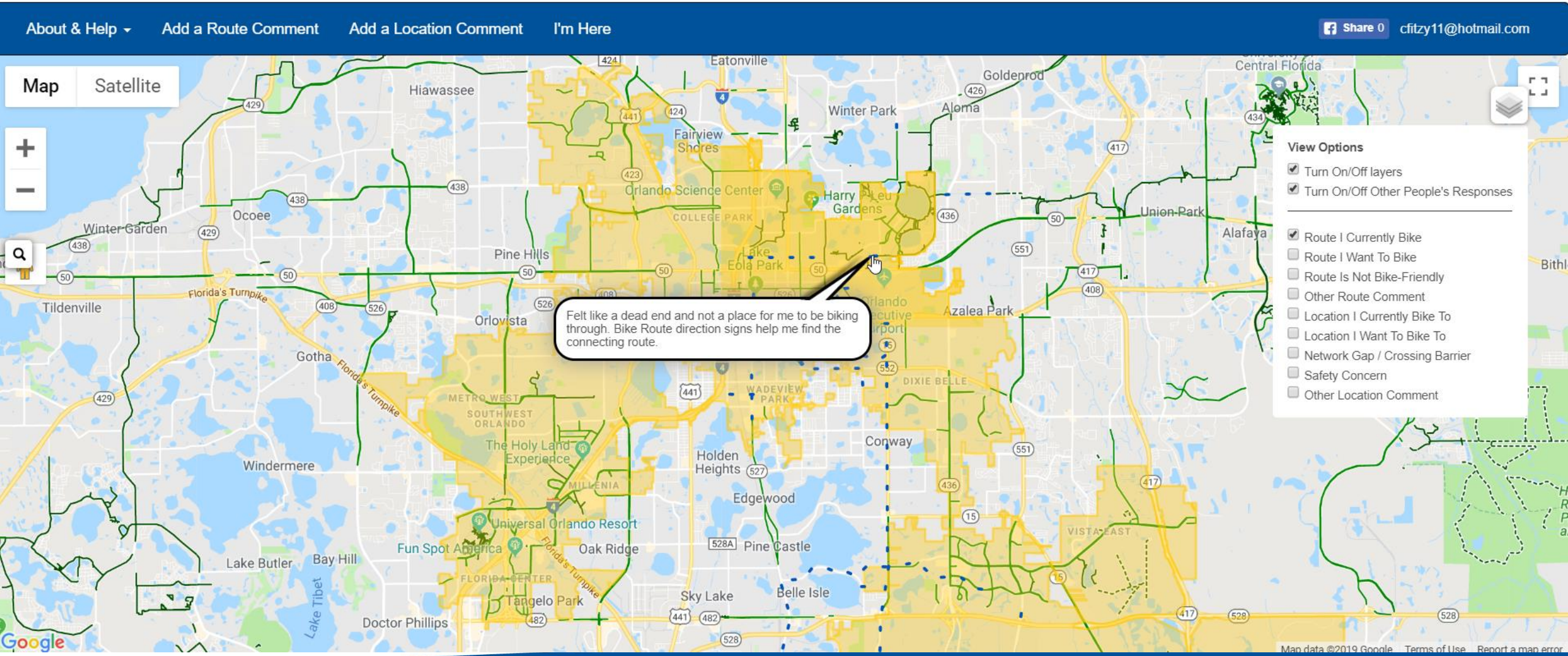

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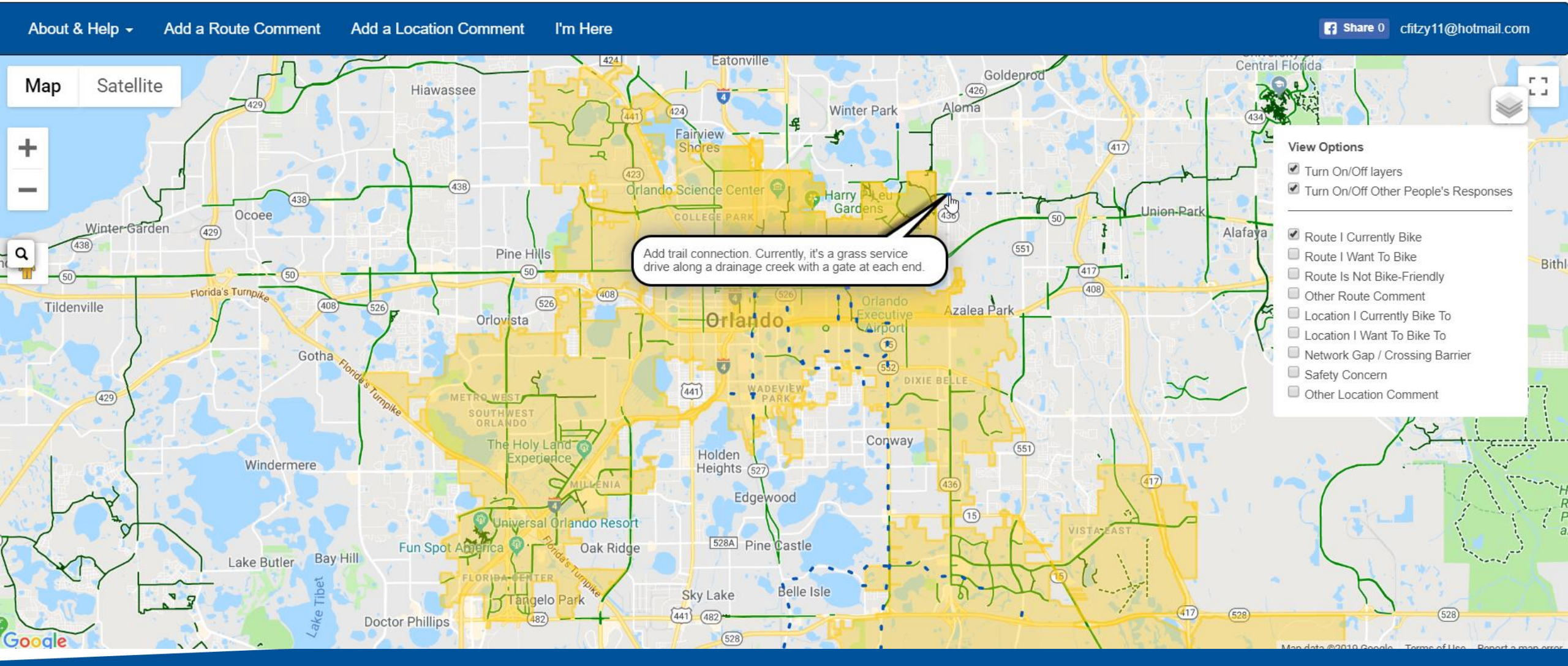

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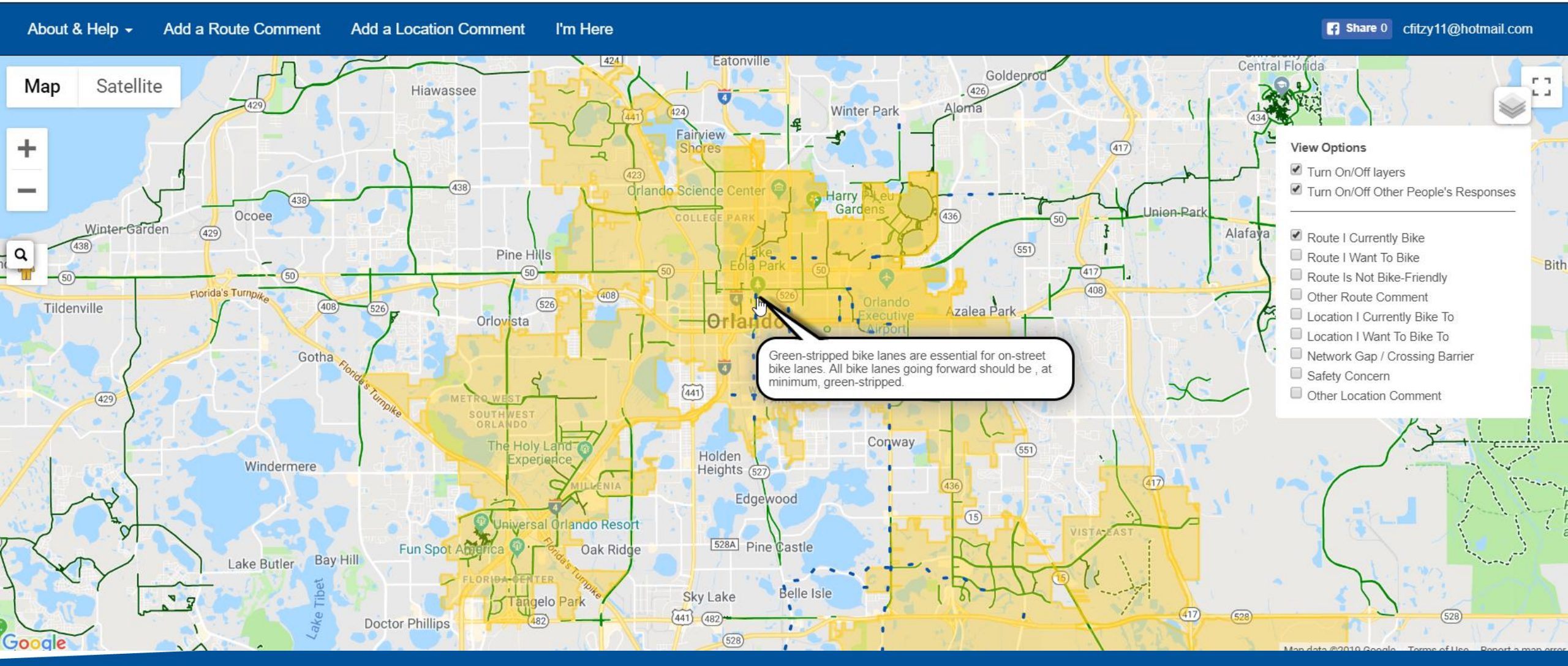
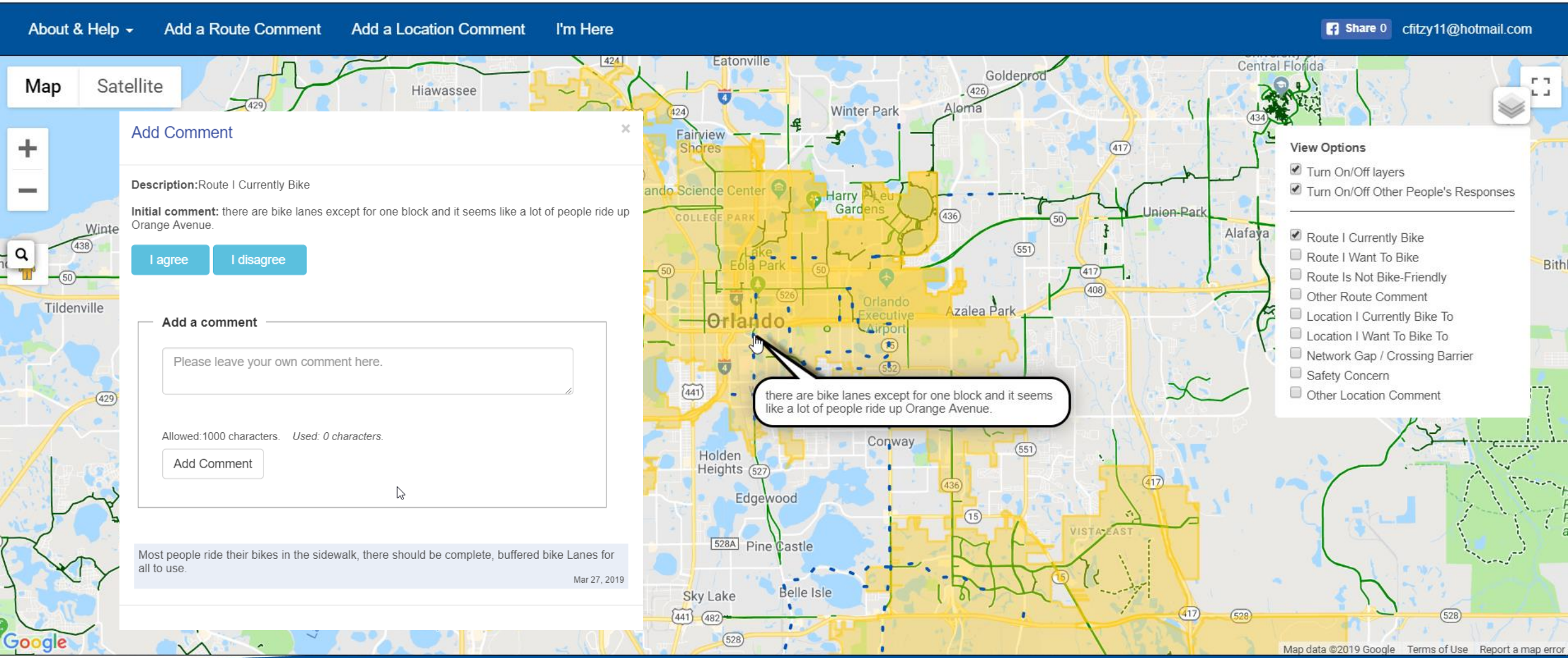
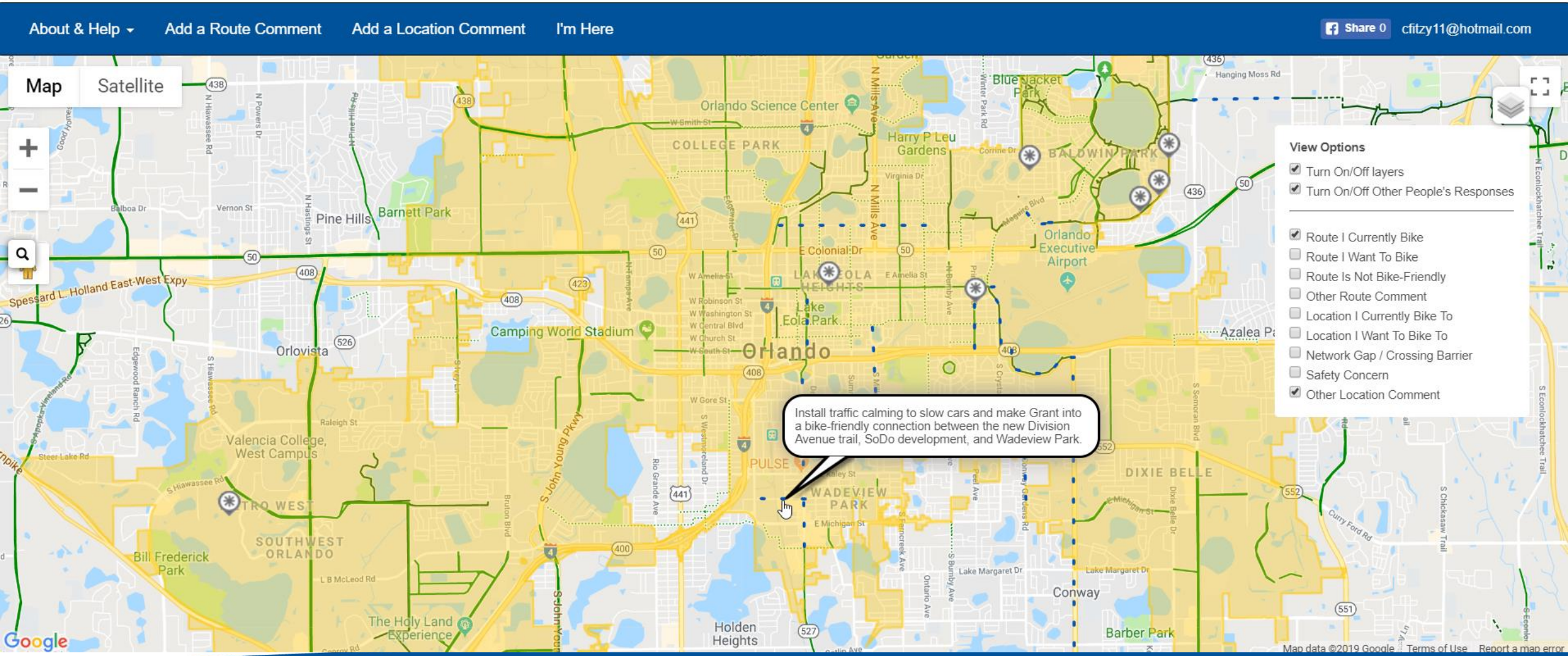


BIKE PLAN UPDATE



BIKE PLAN UPDATE



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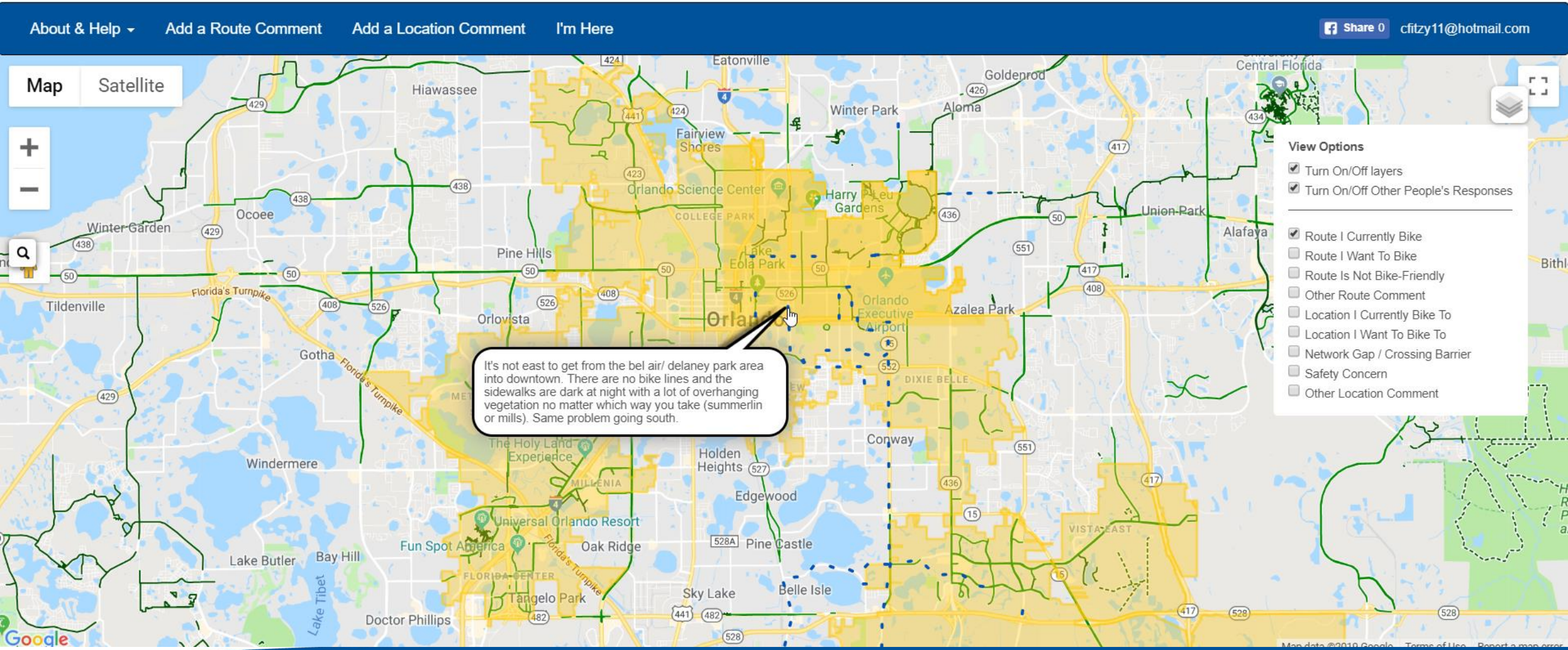

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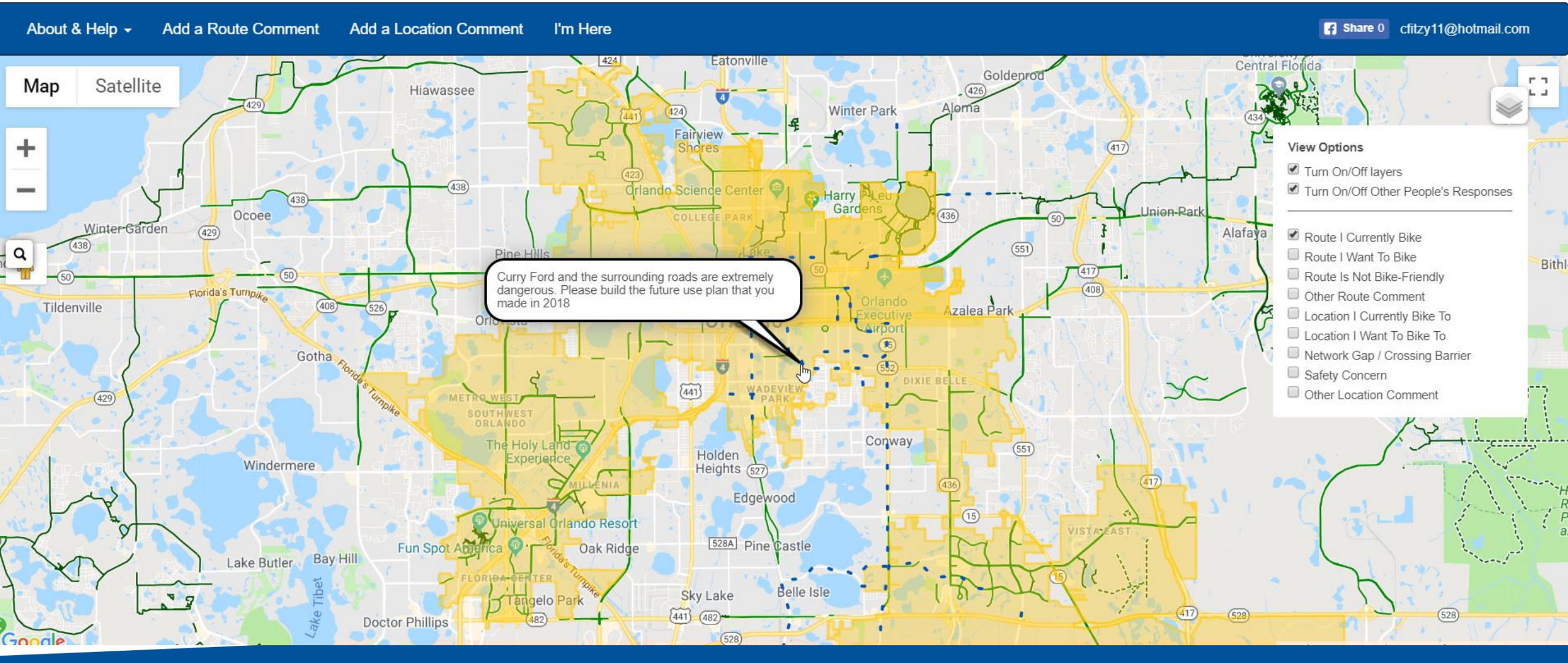

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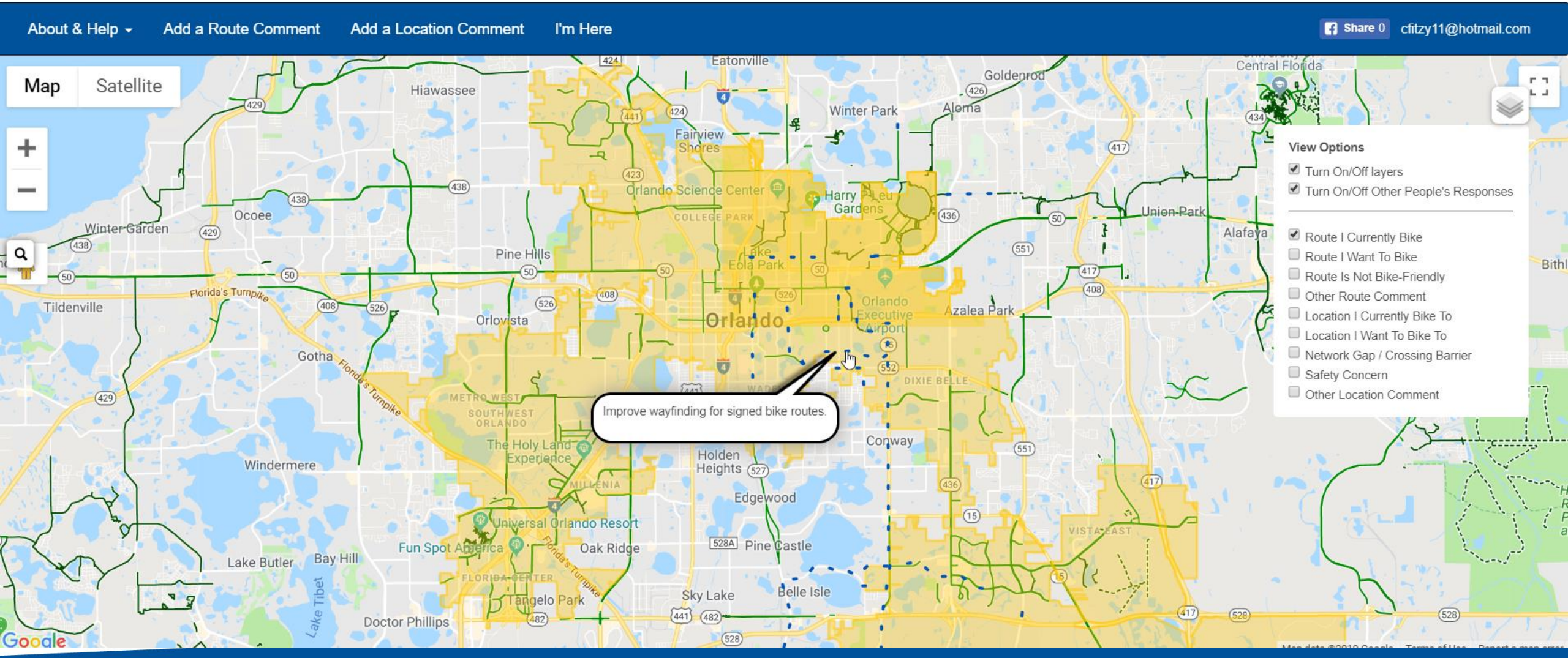

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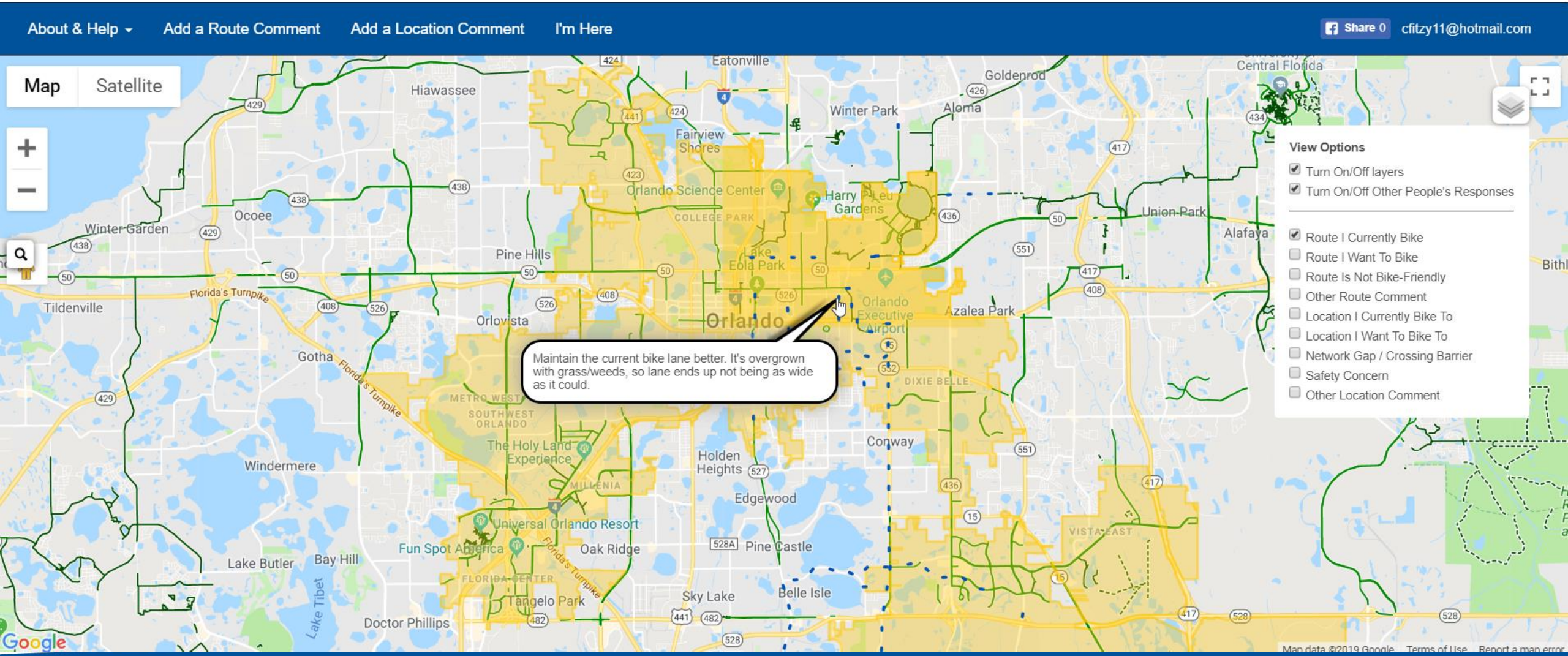

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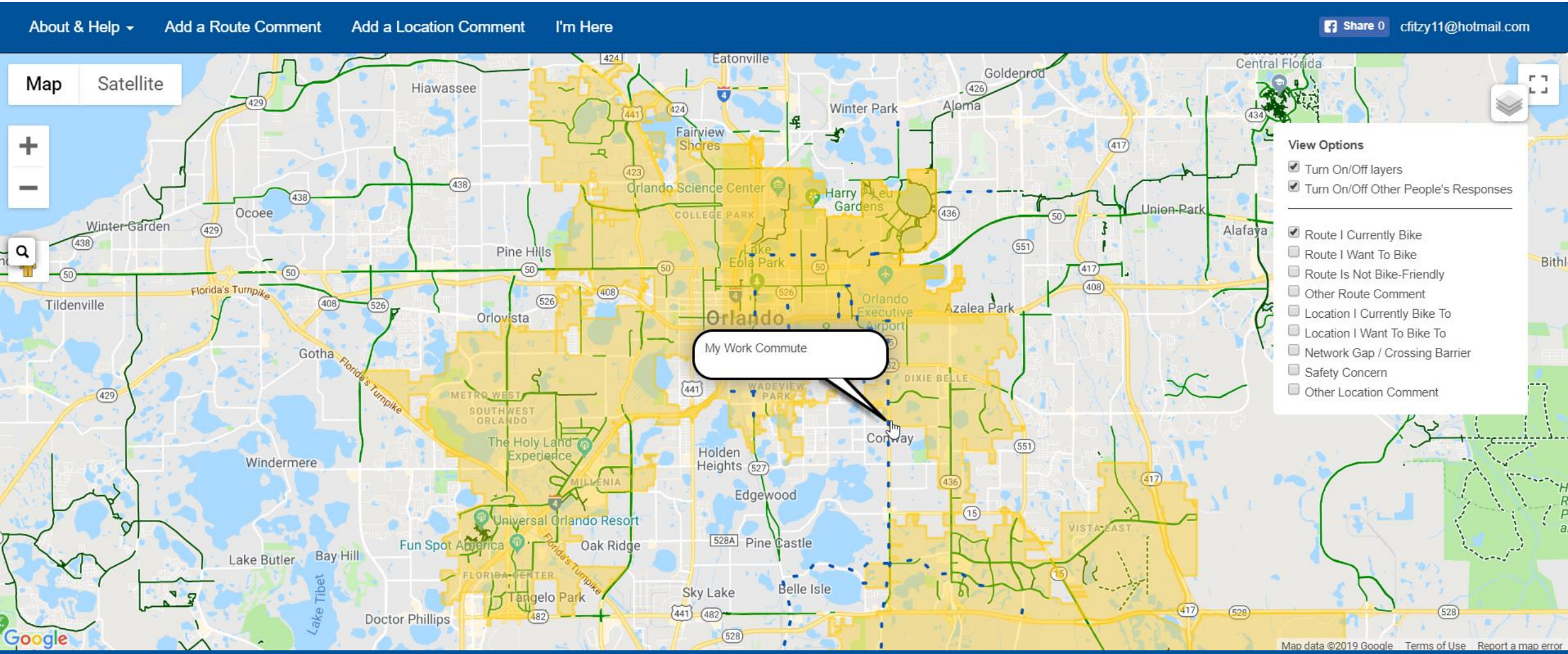

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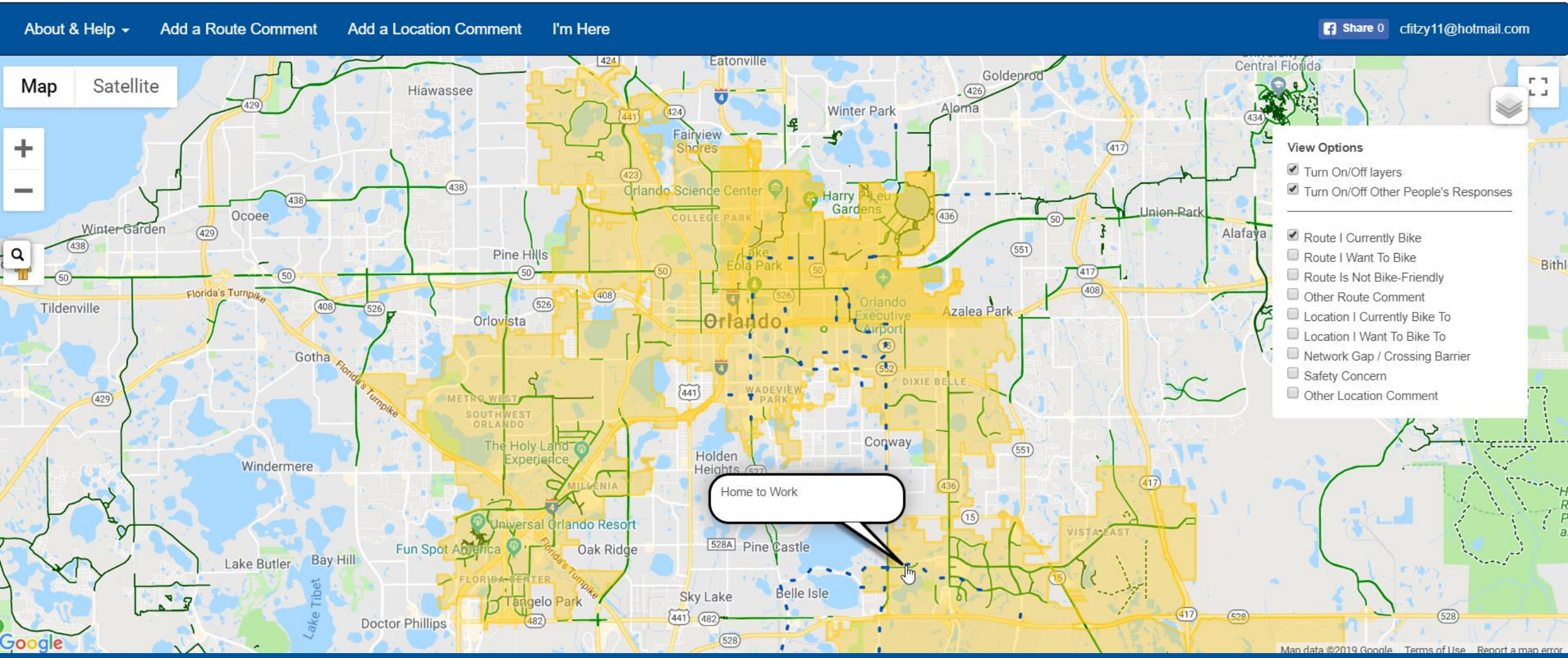

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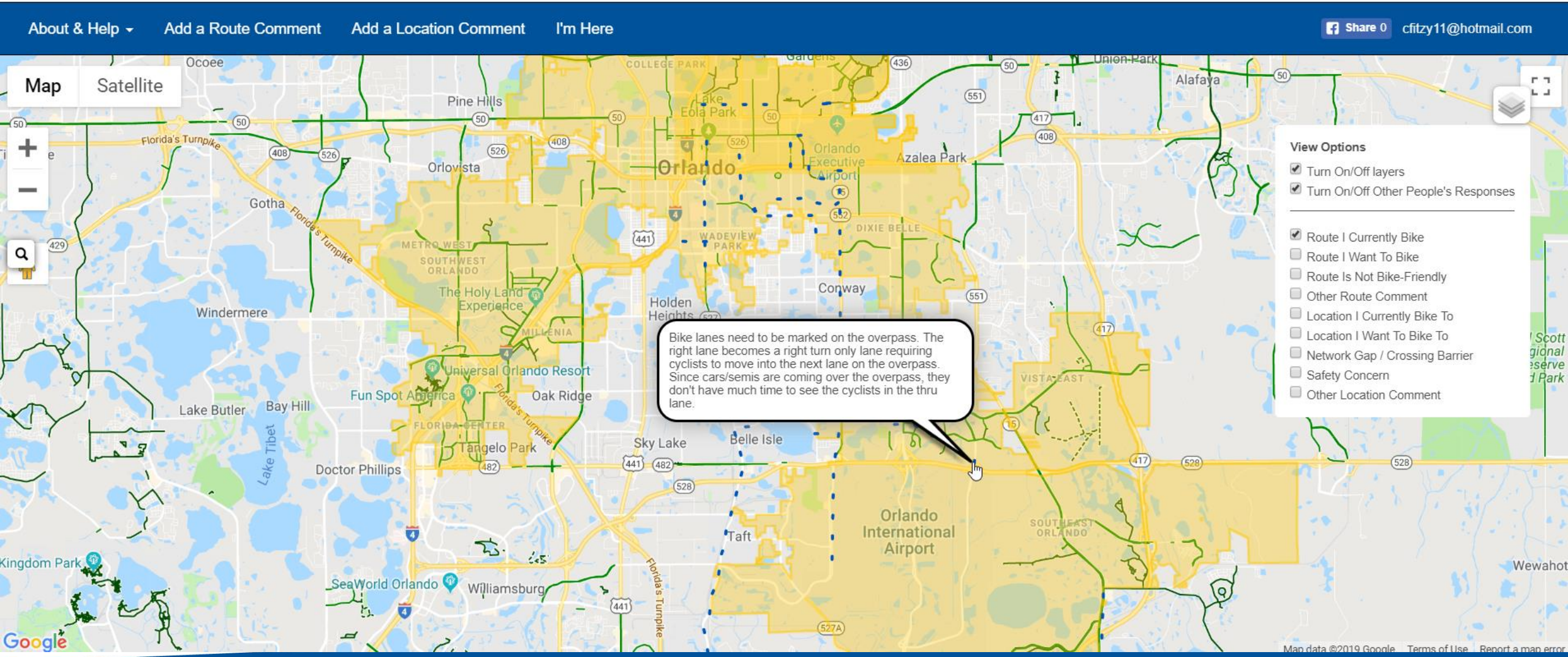

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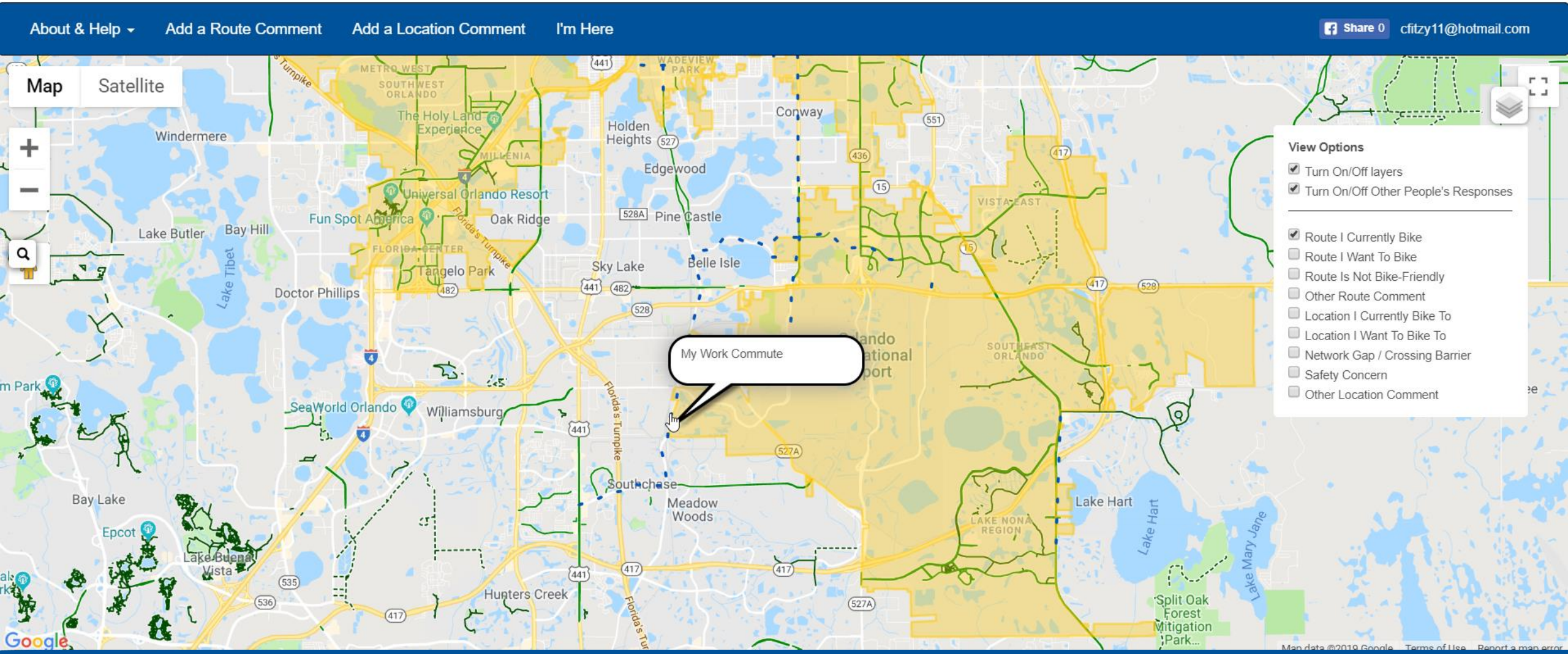

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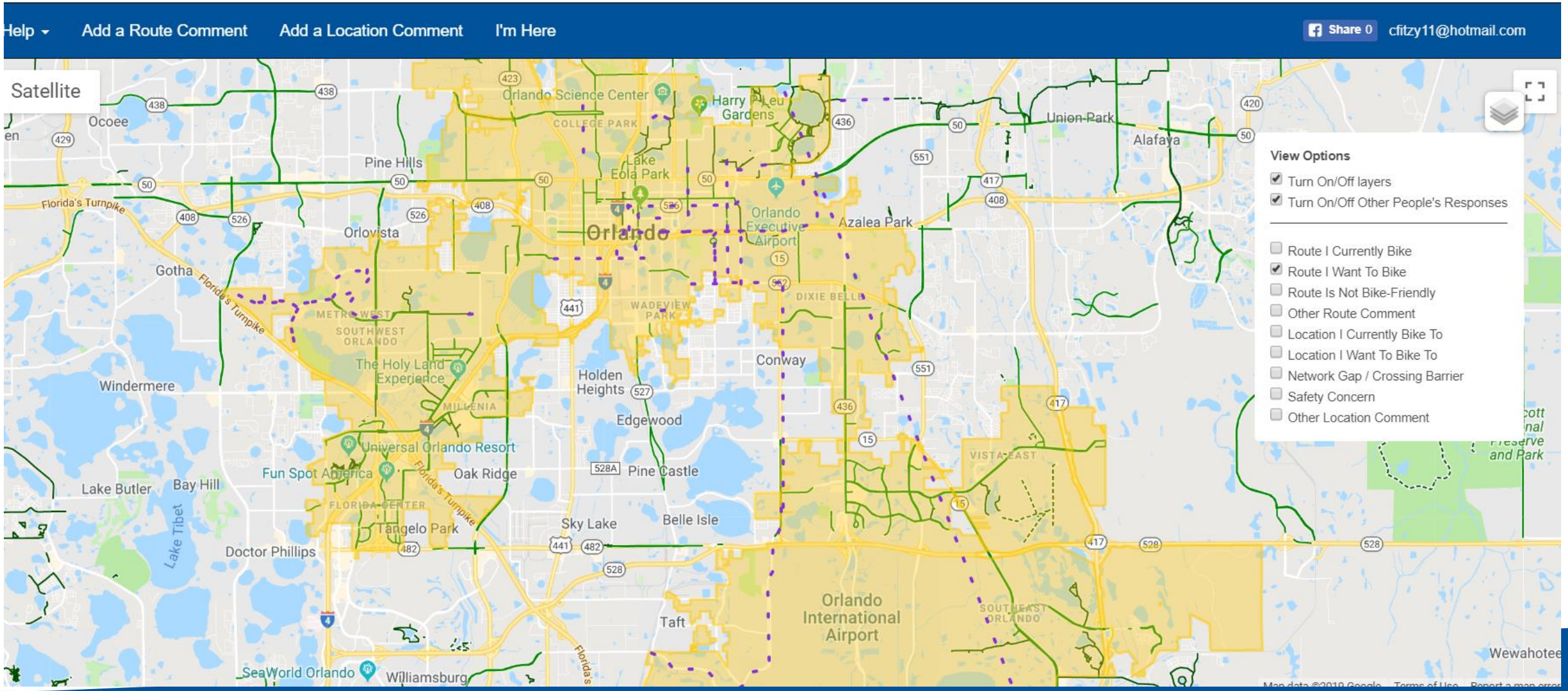

Route I Want to Bike

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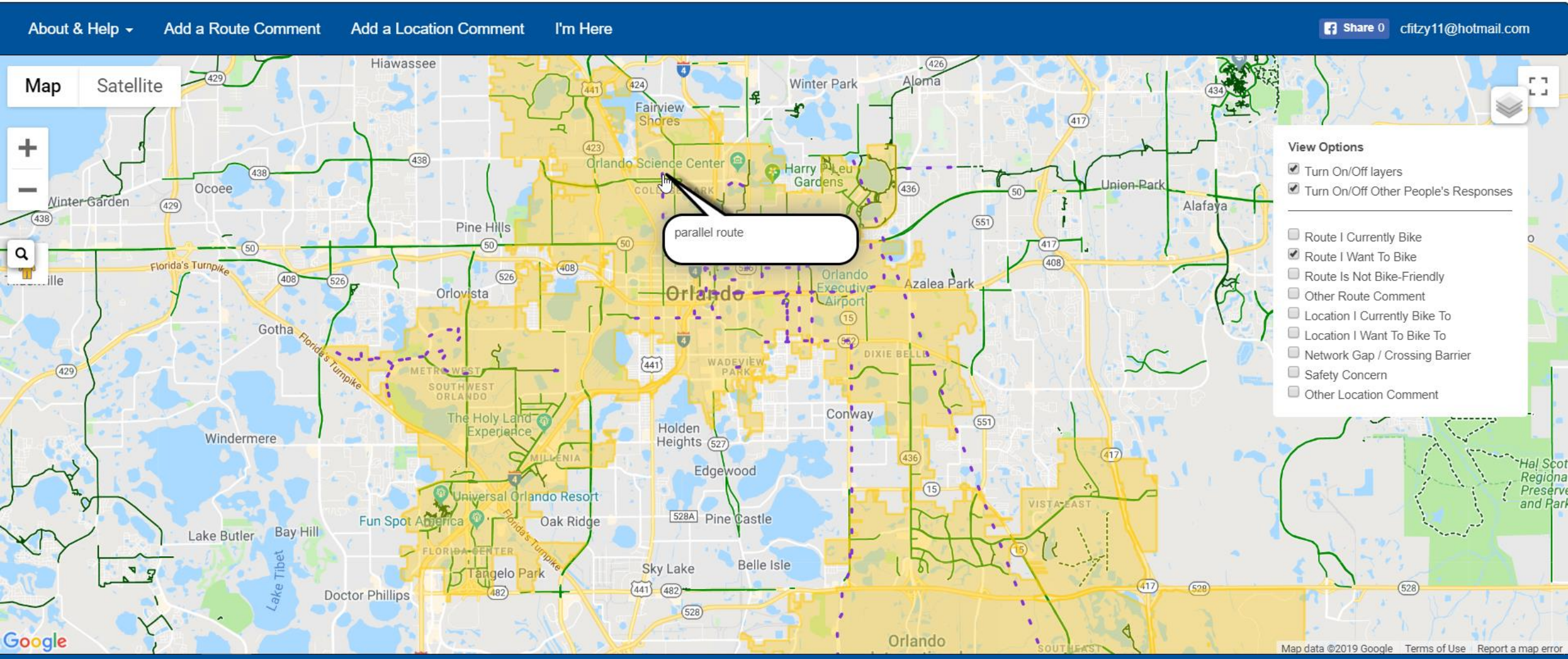

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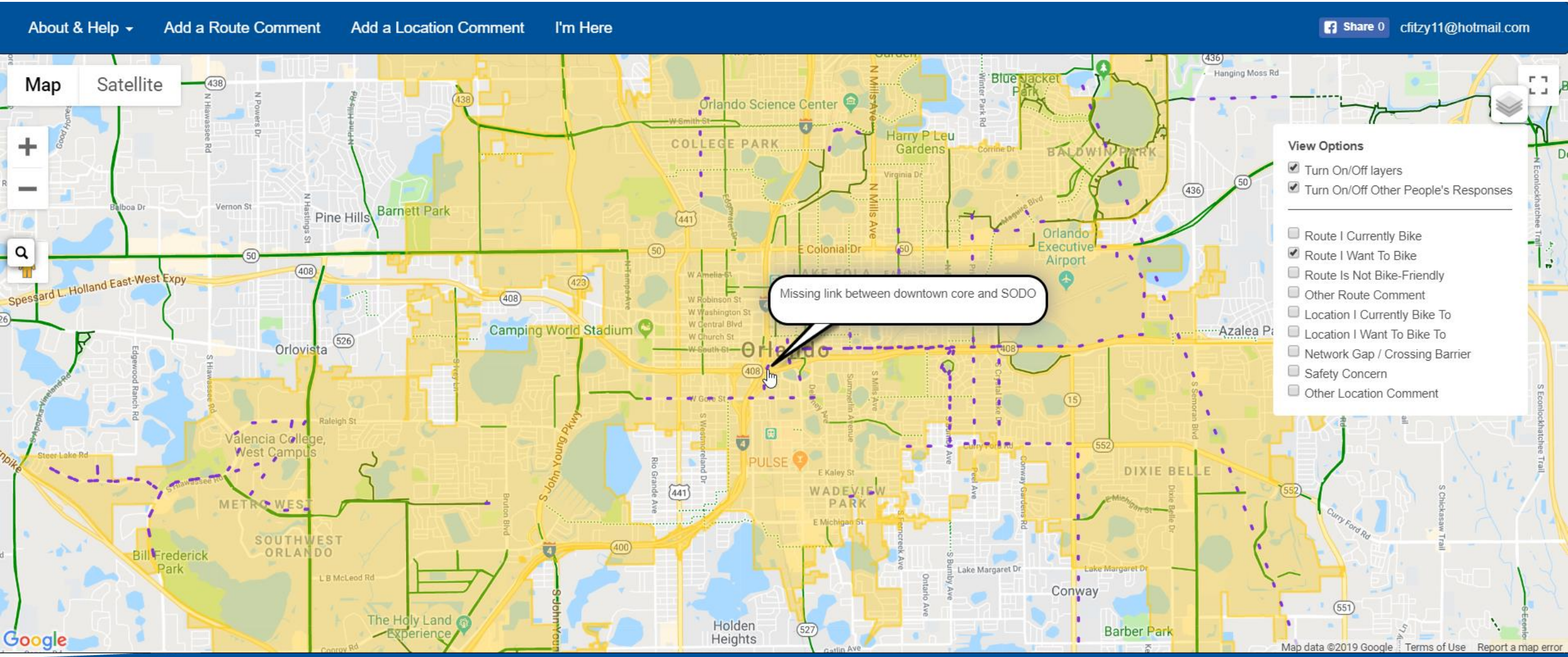

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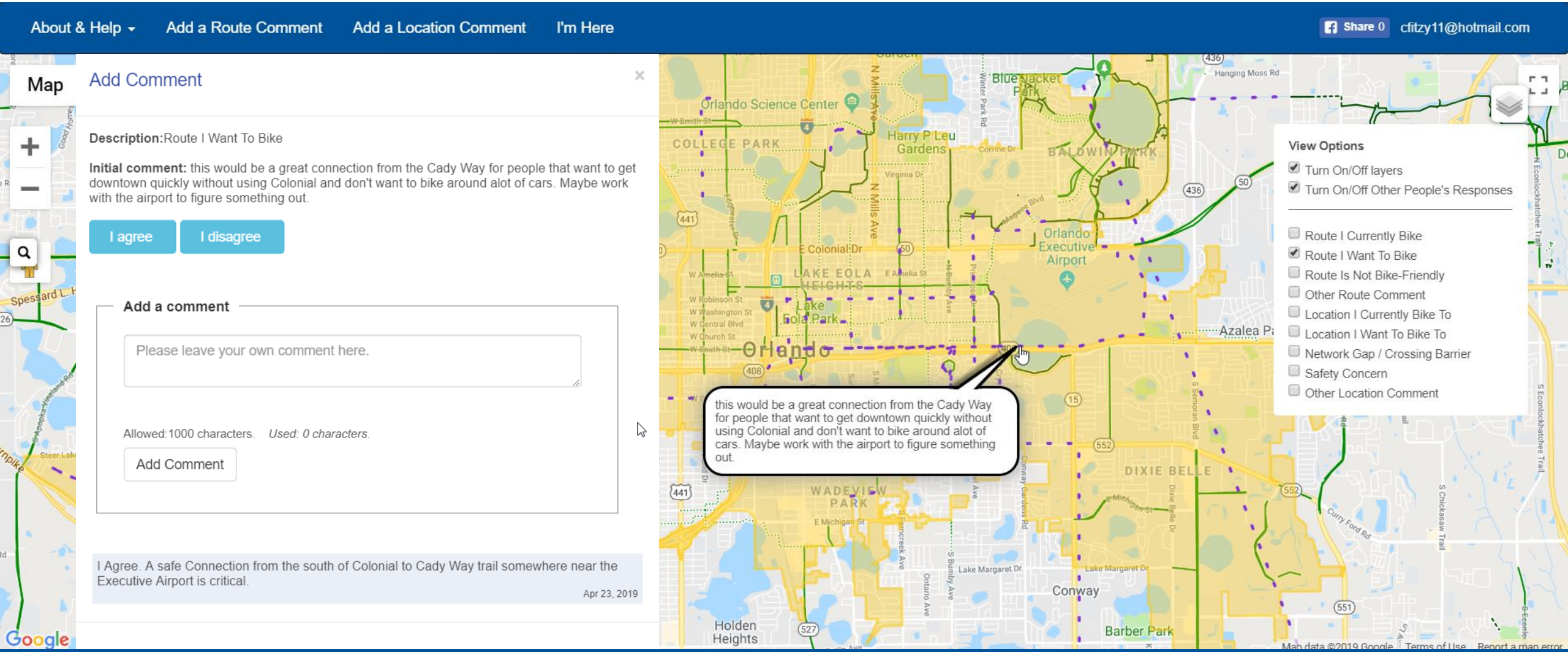

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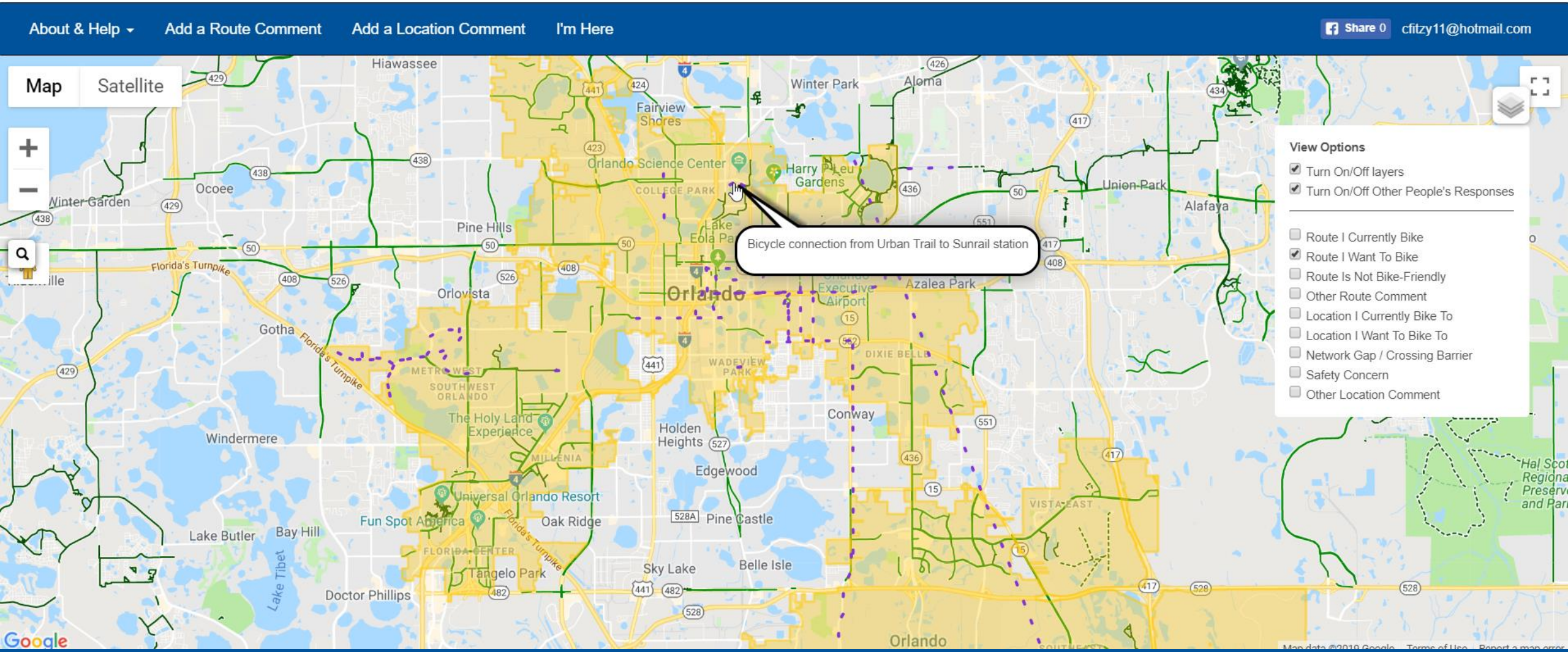

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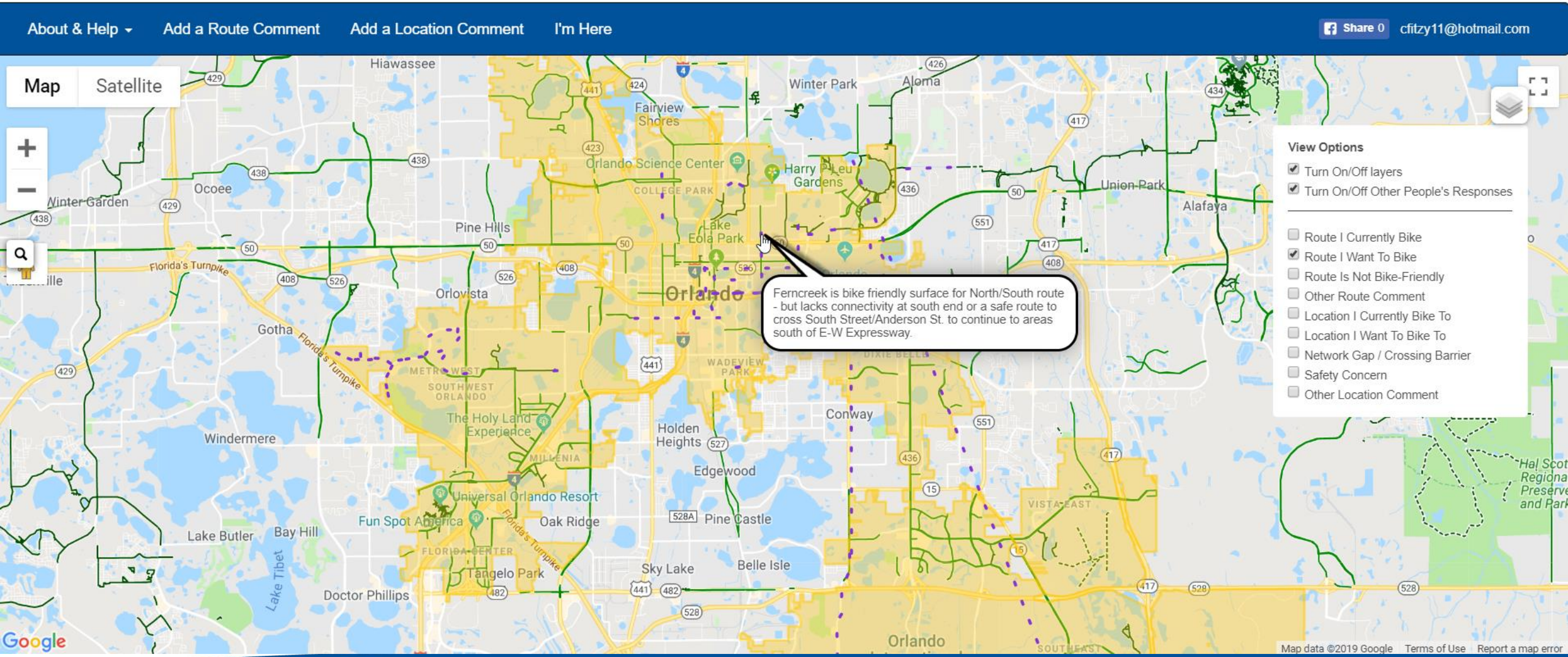

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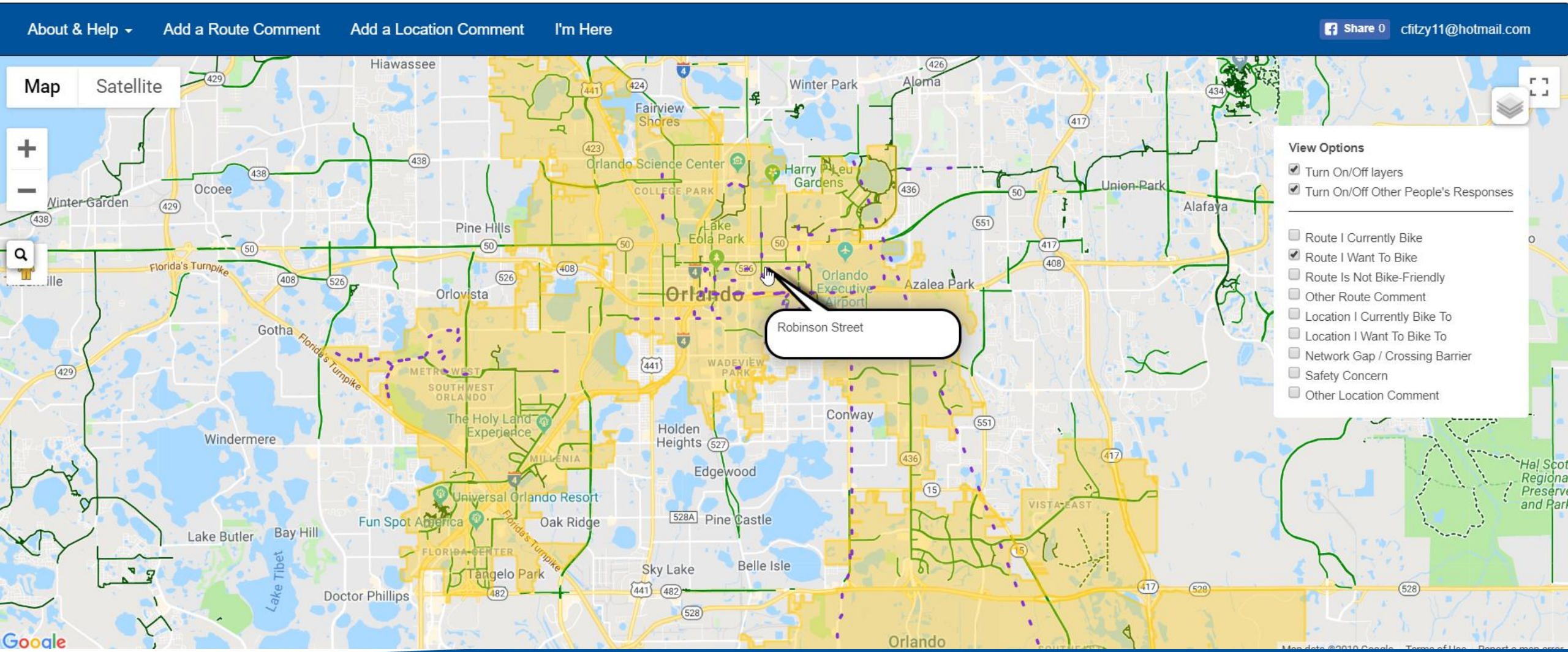

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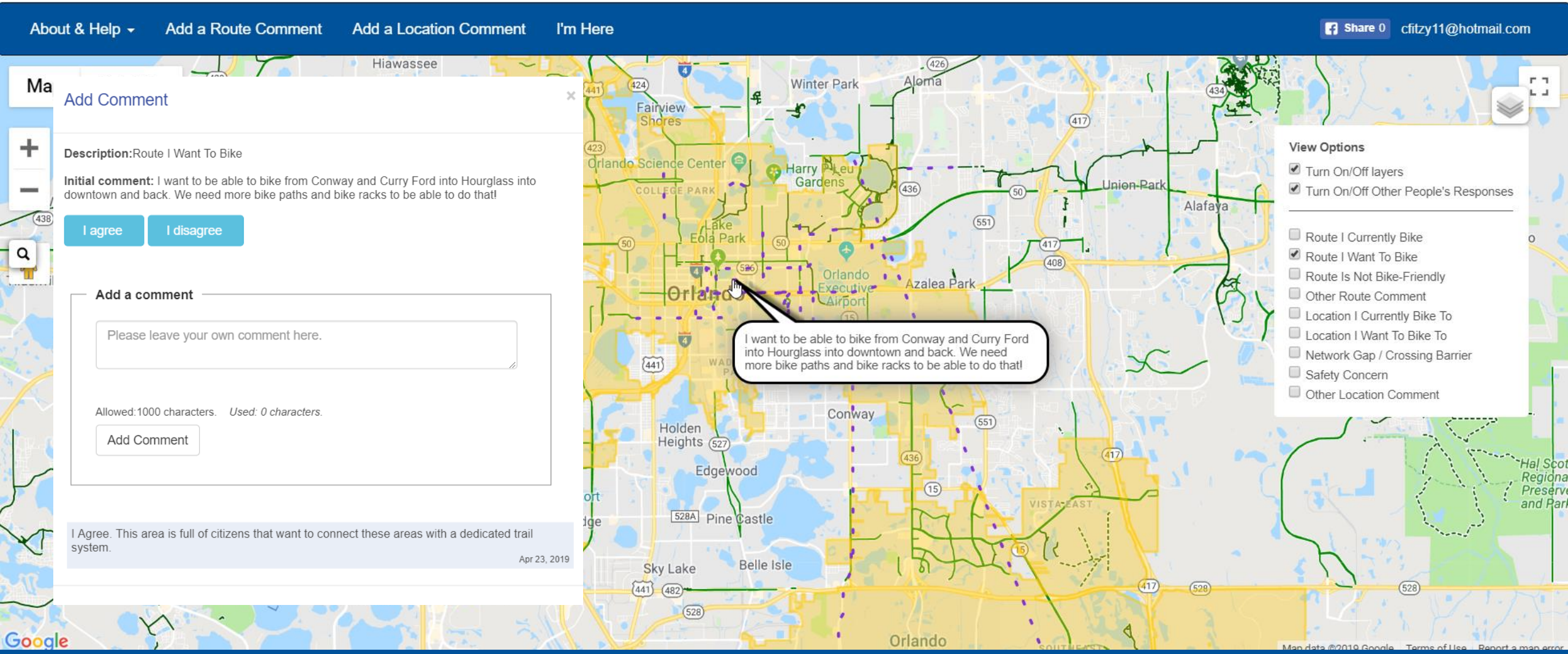

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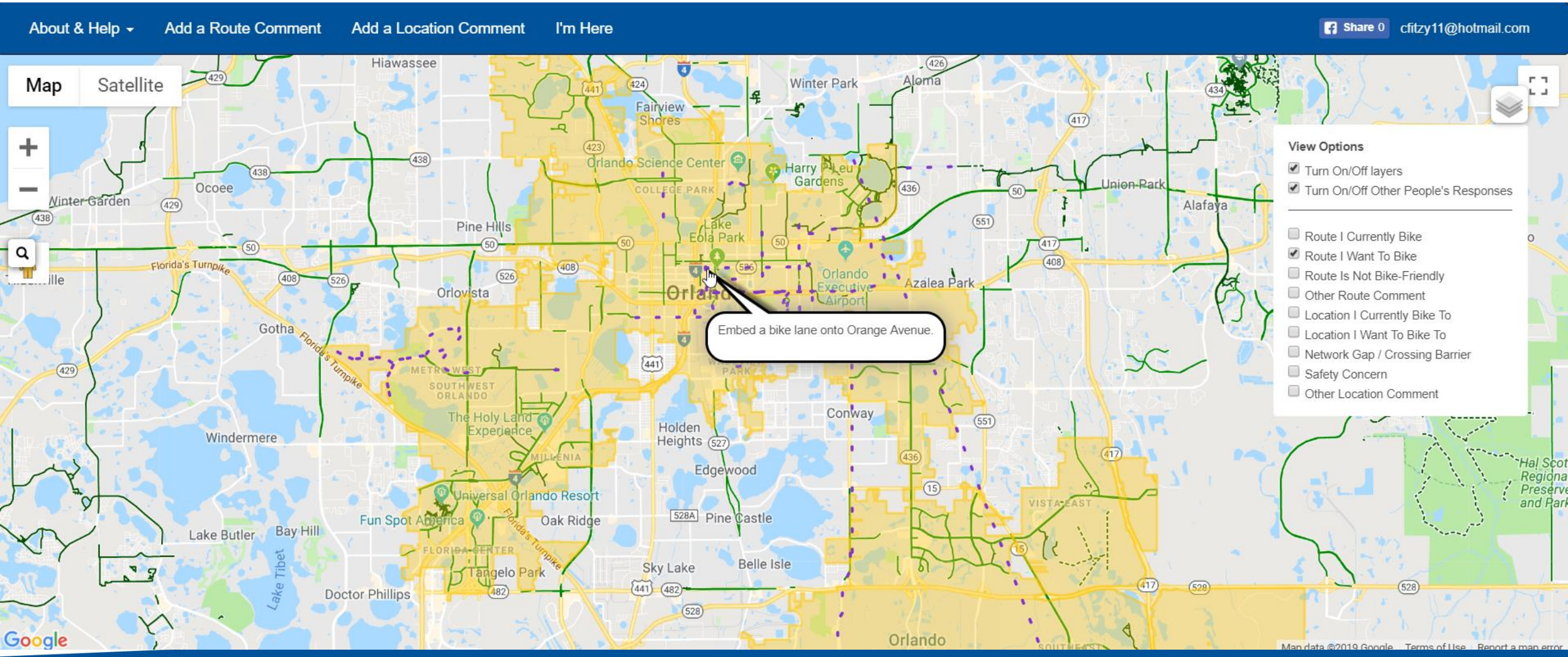

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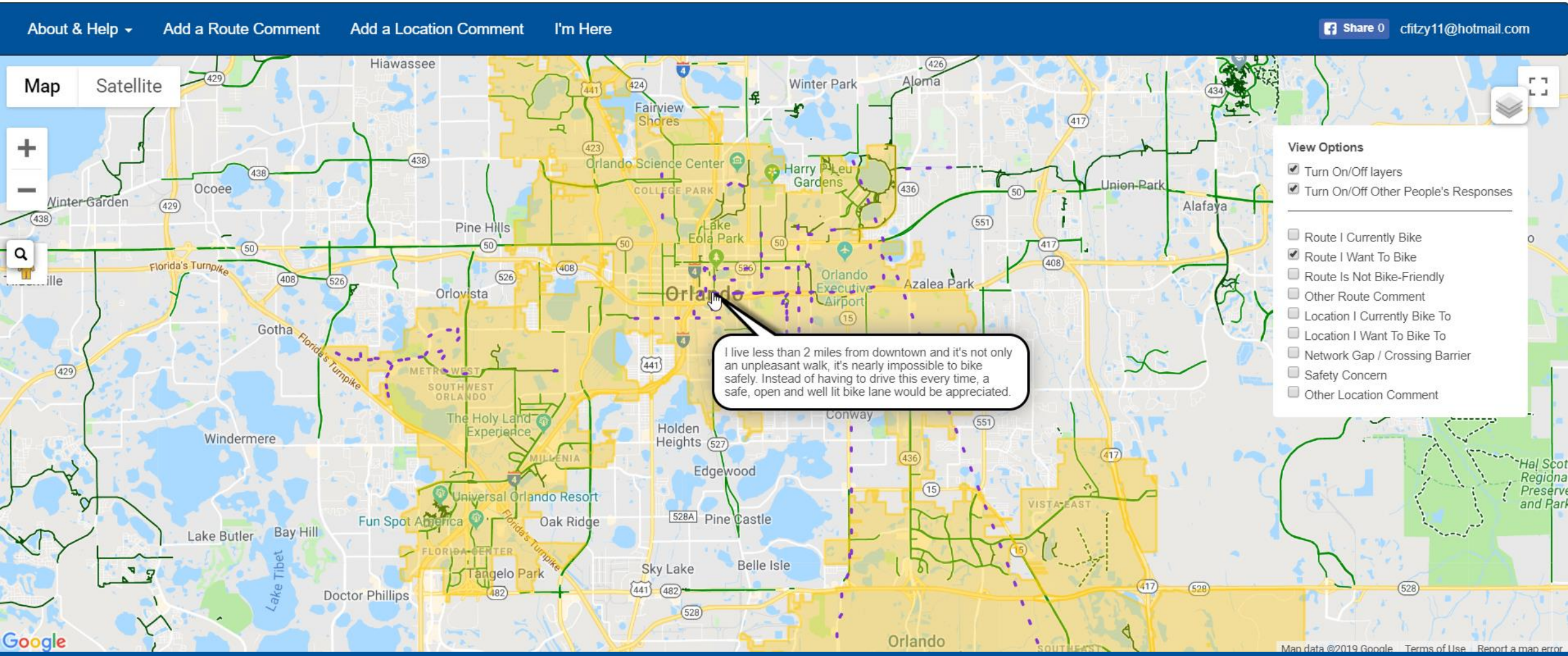

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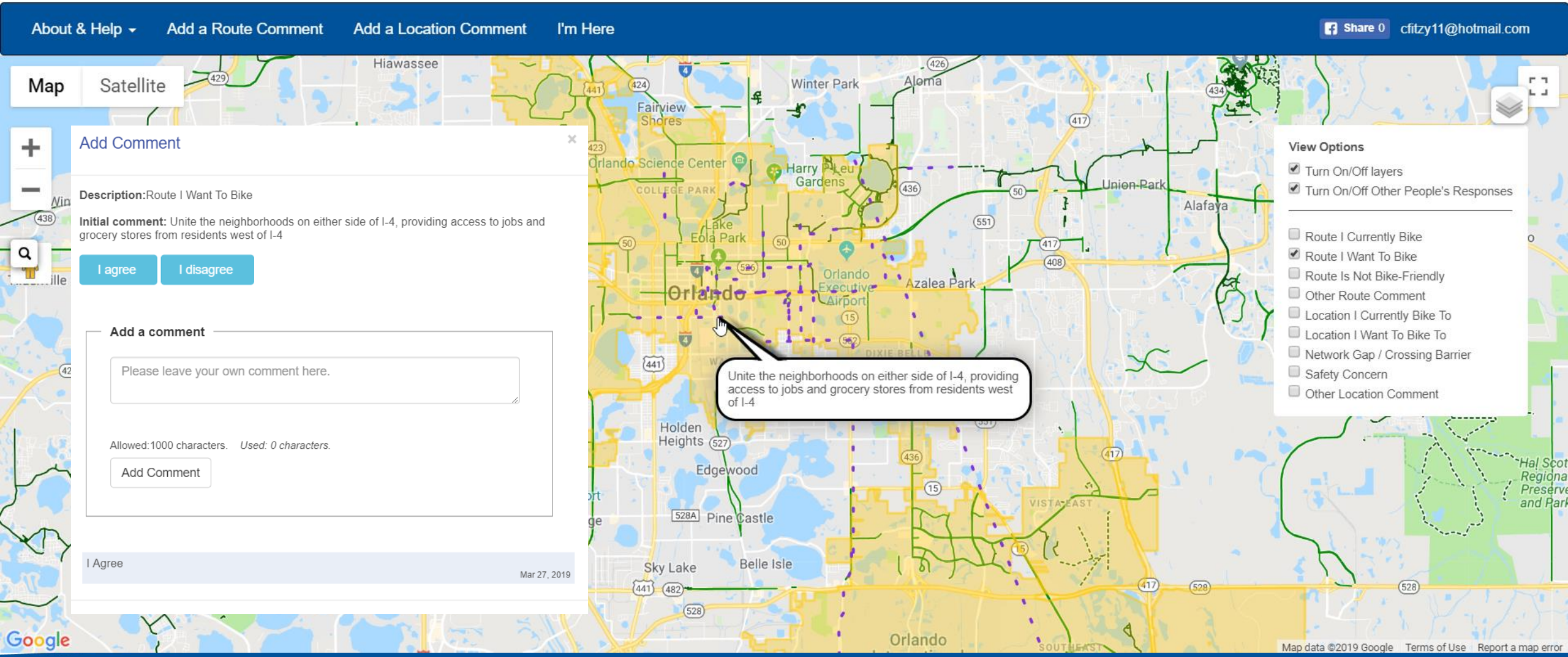

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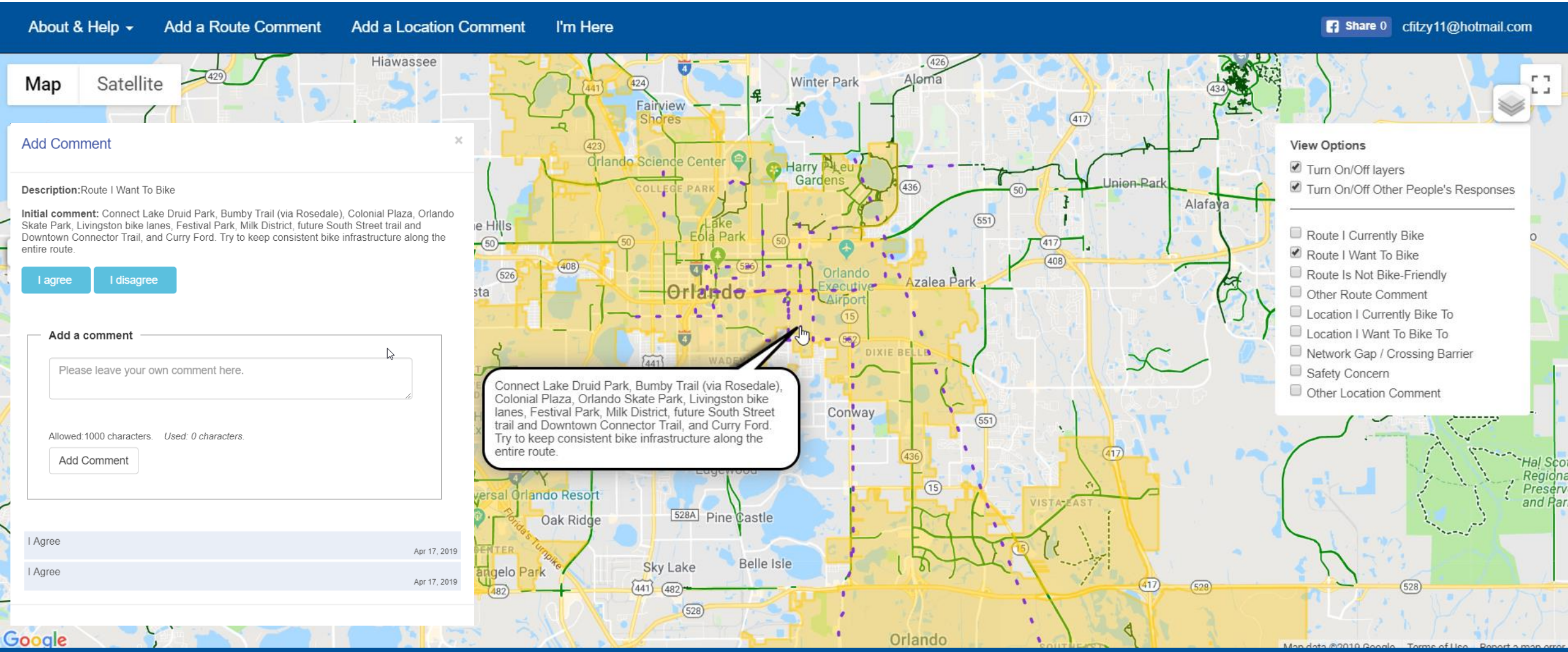

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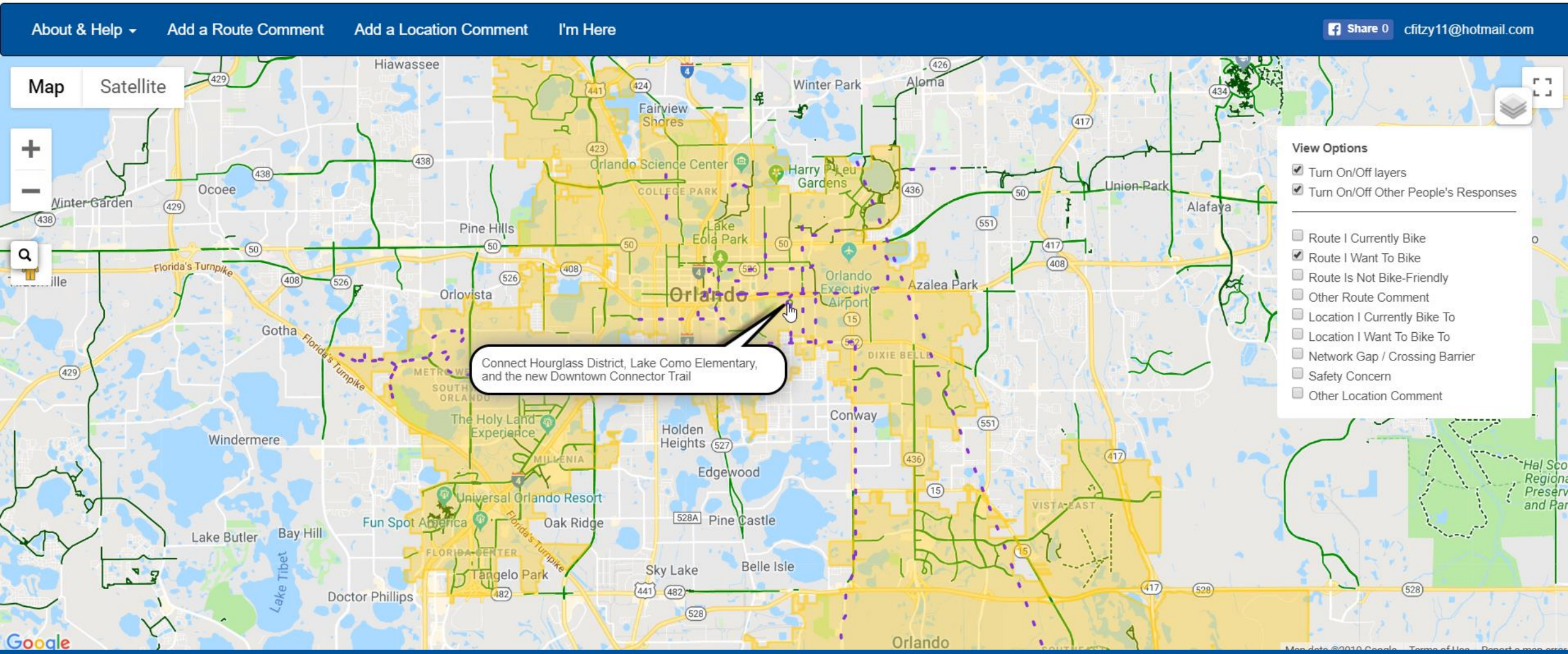

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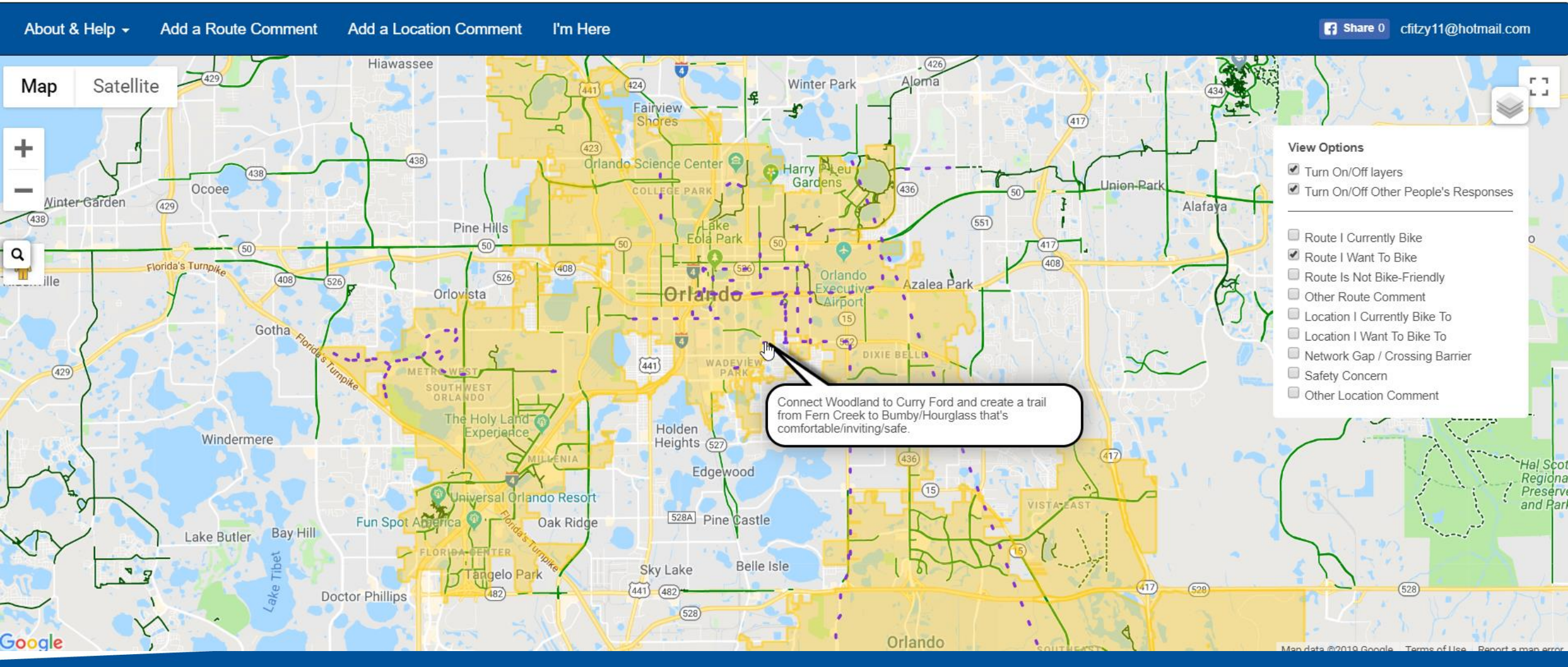

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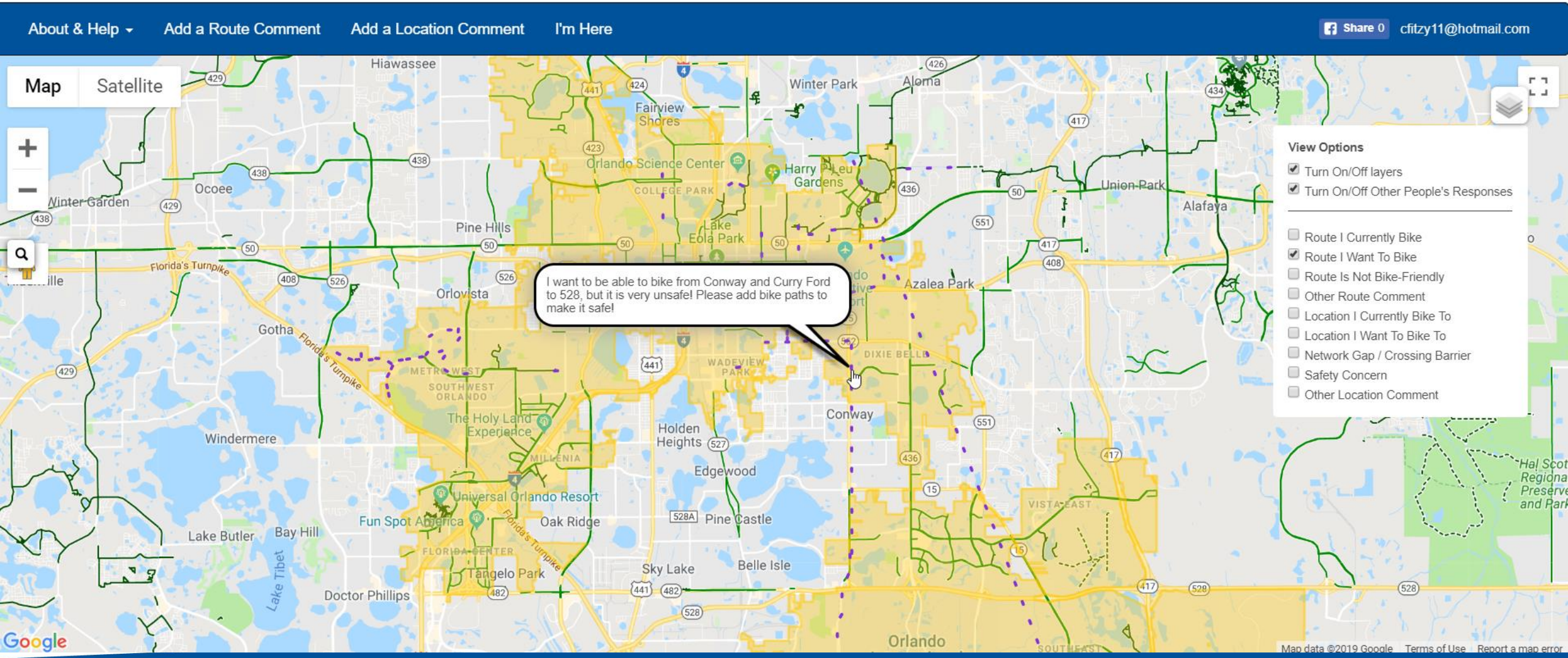

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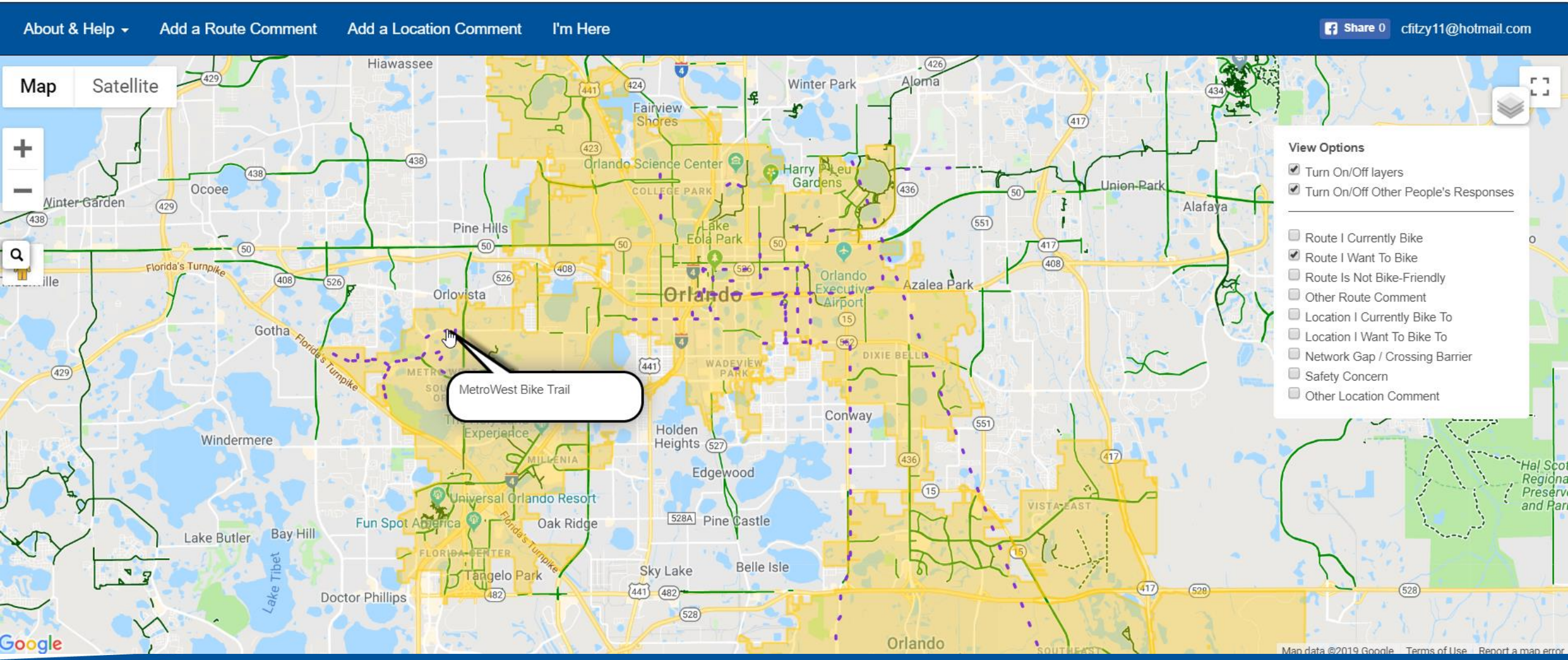

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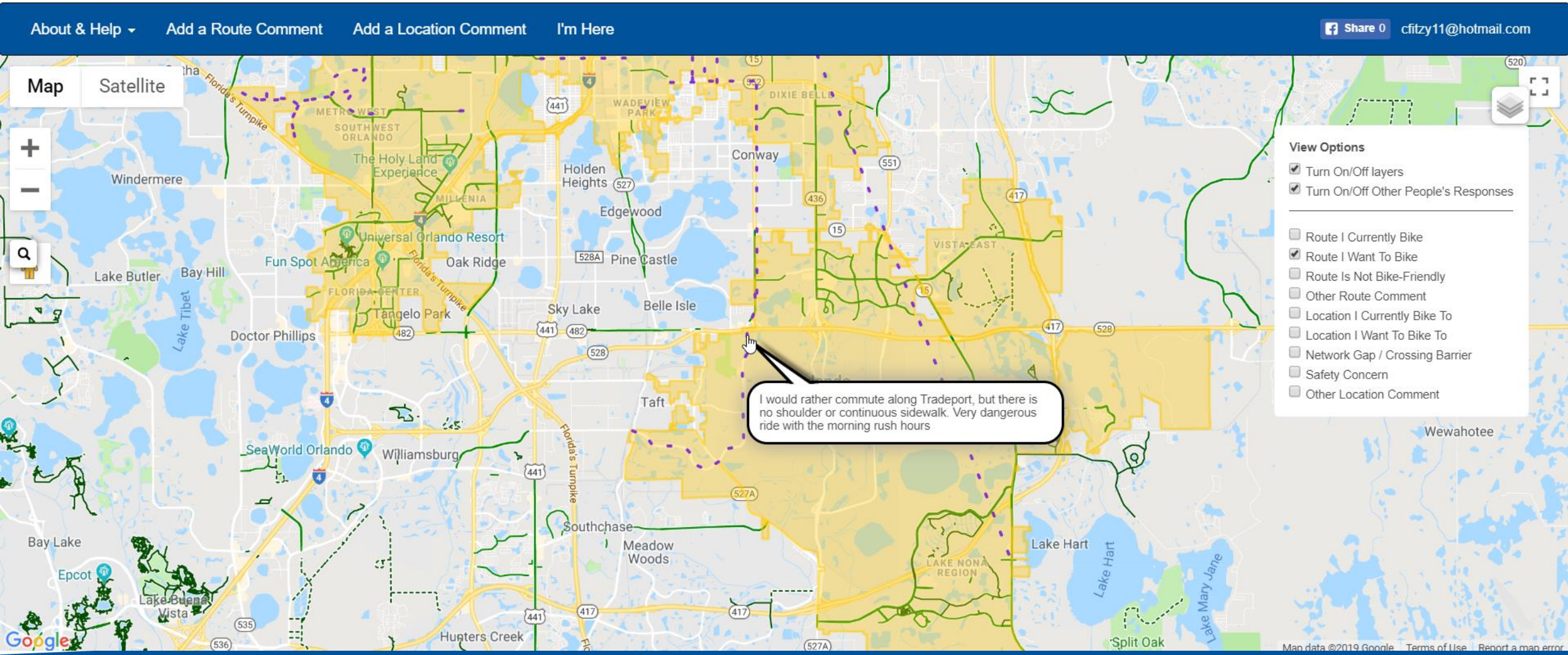

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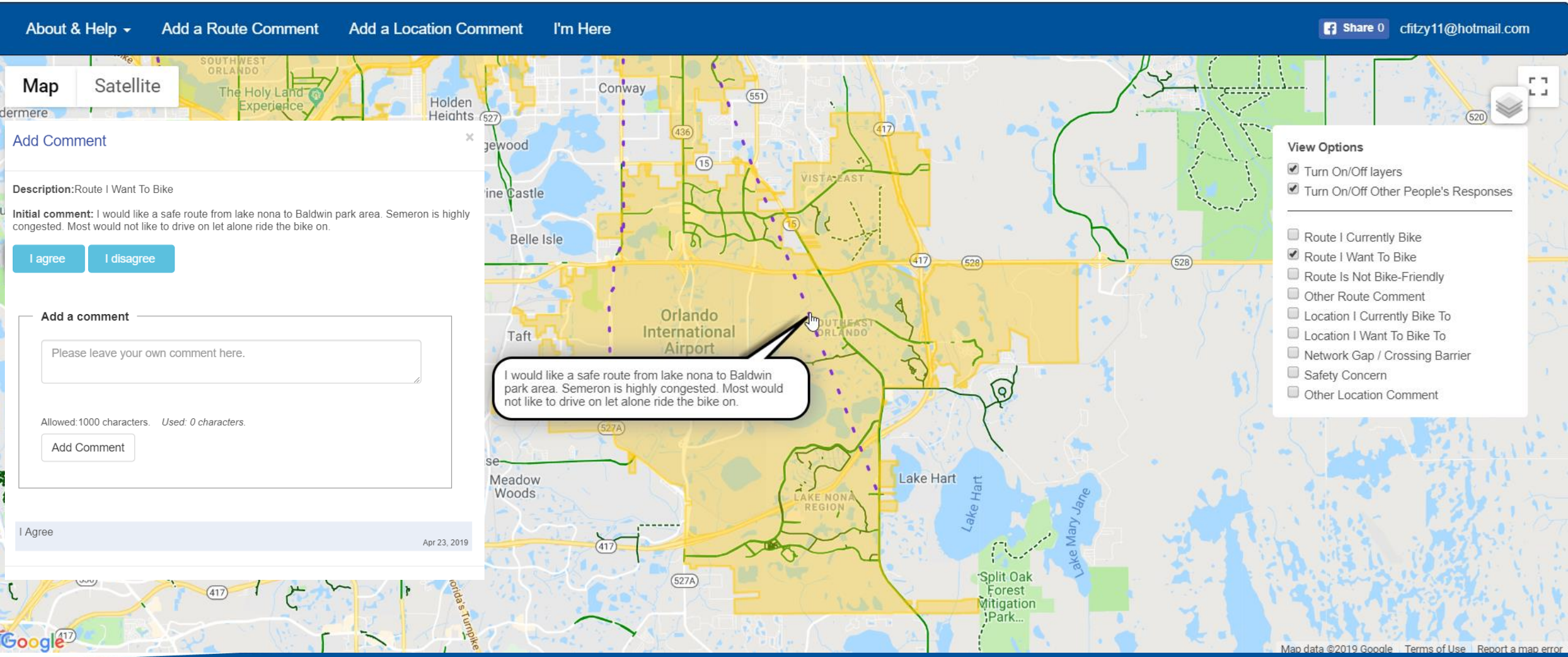

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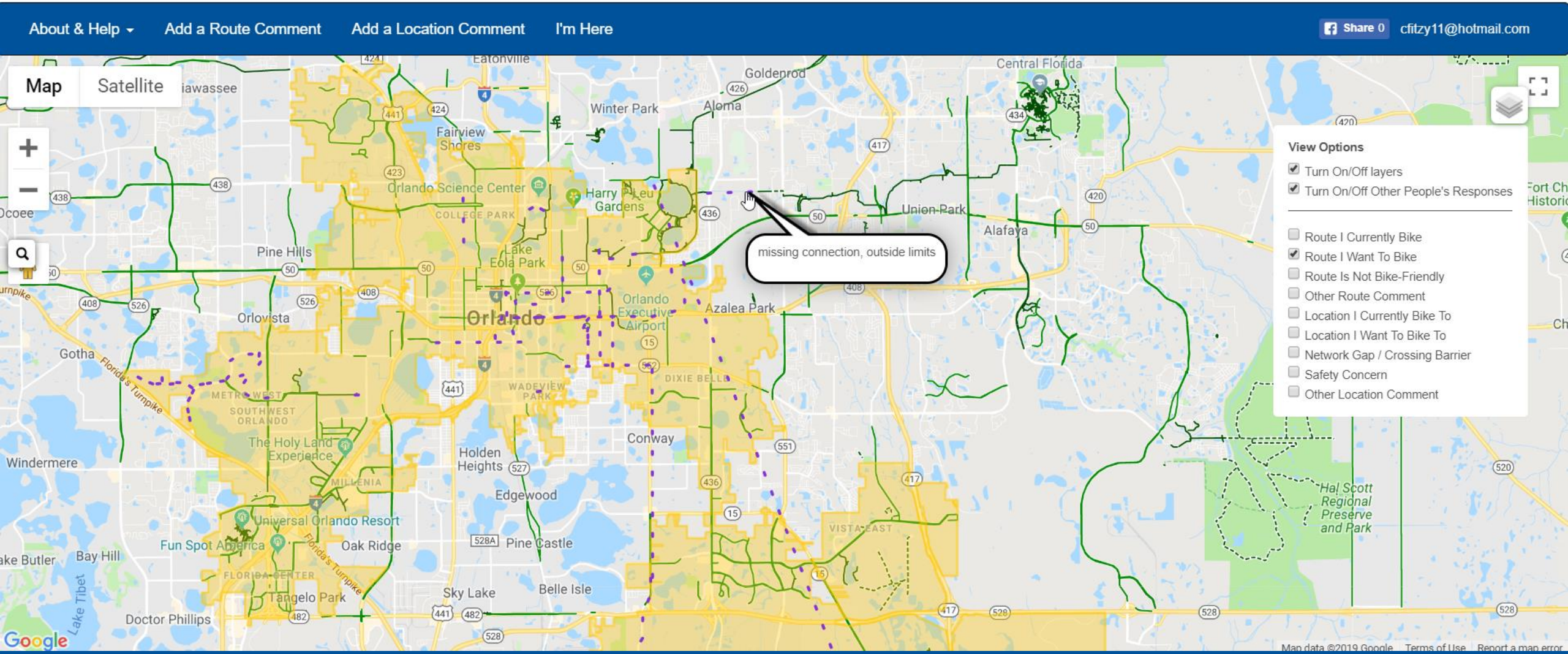

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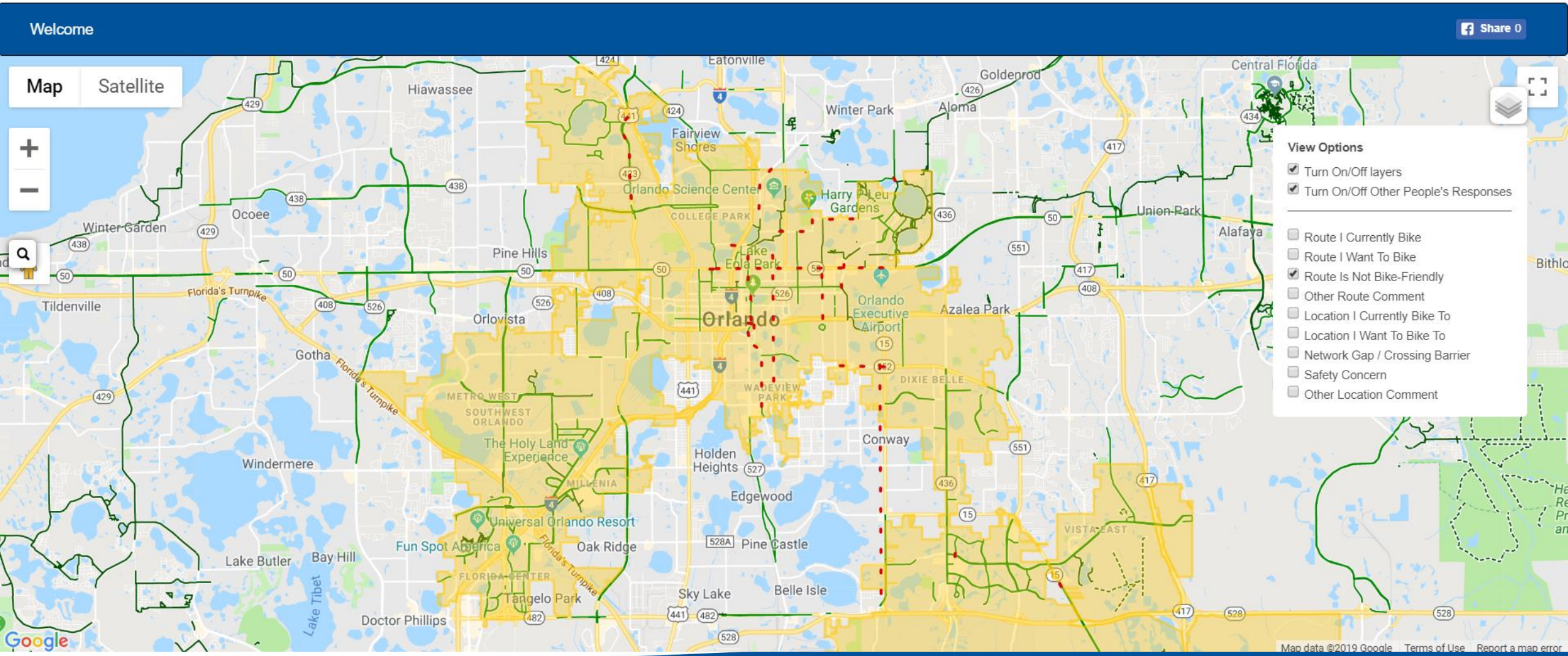
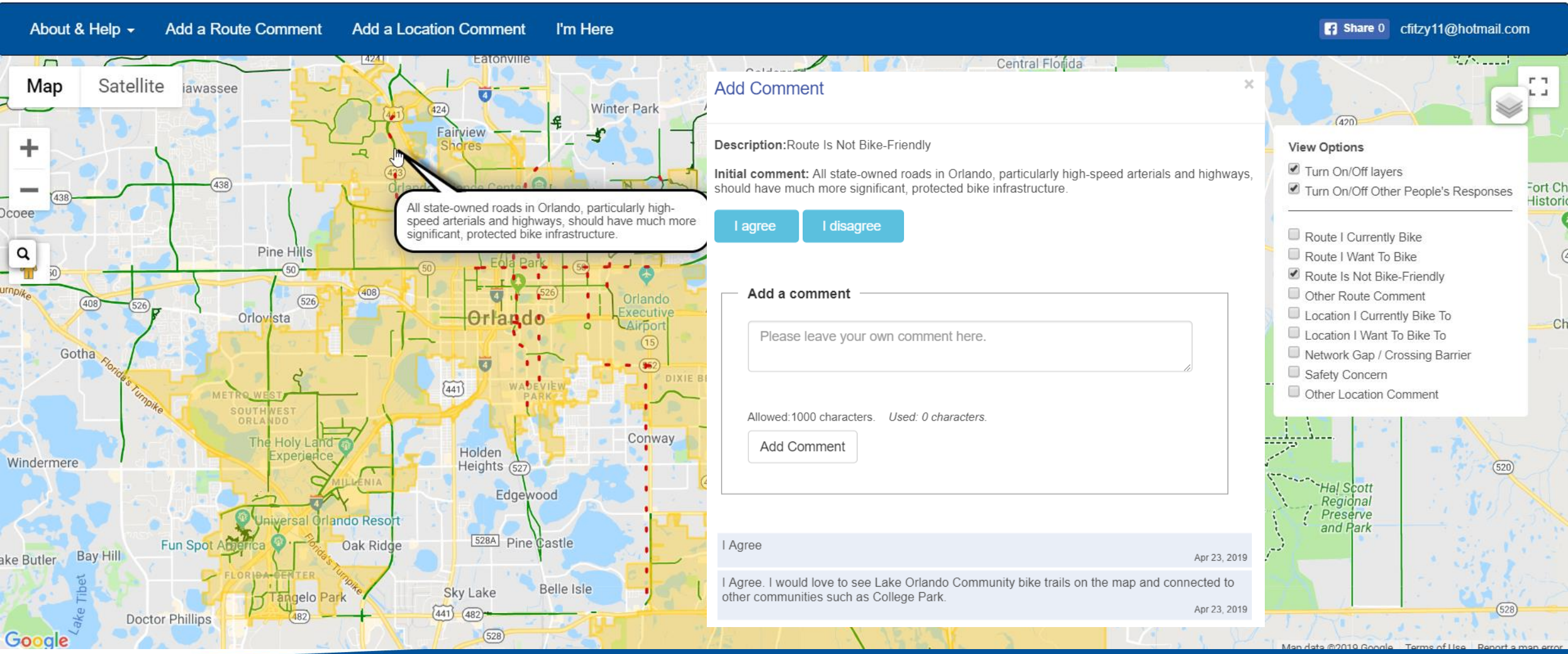


Routes Not Bike Friendly

BIKE PLAN UPDATE



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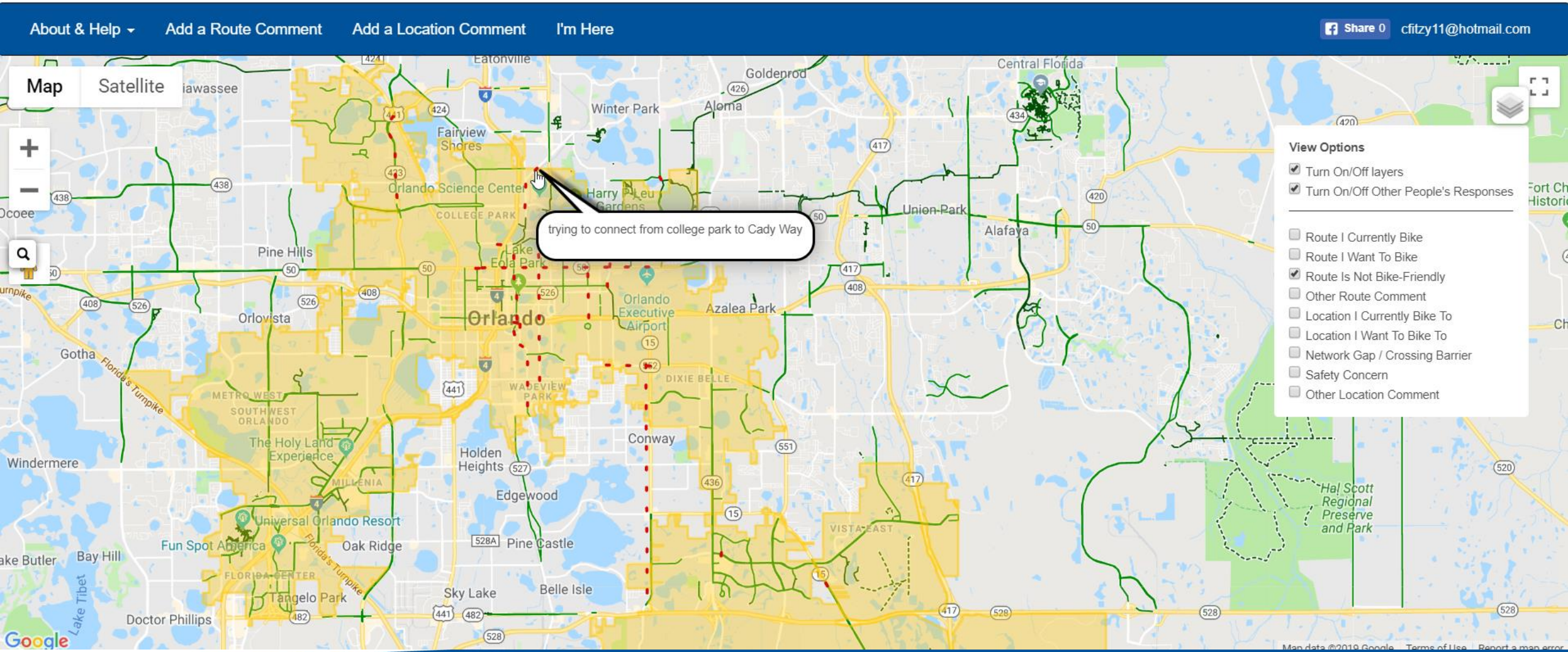

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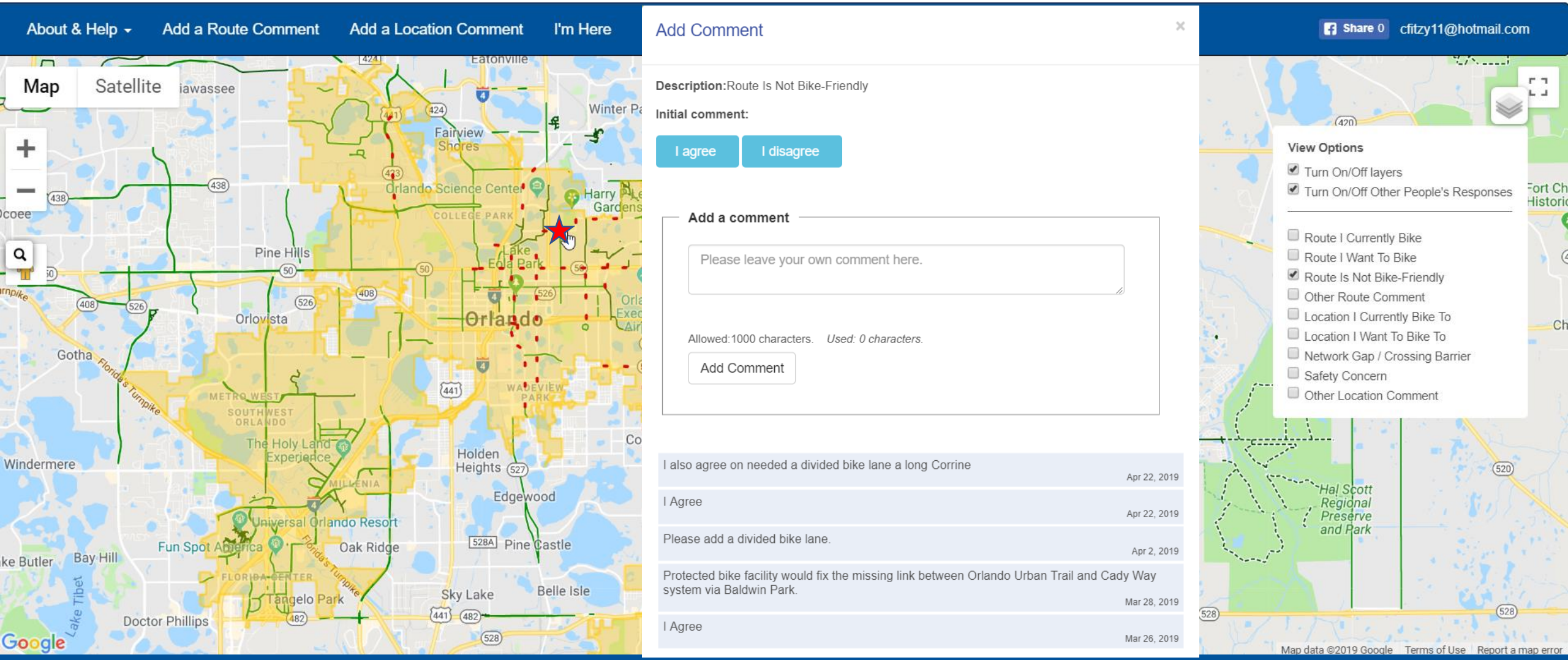

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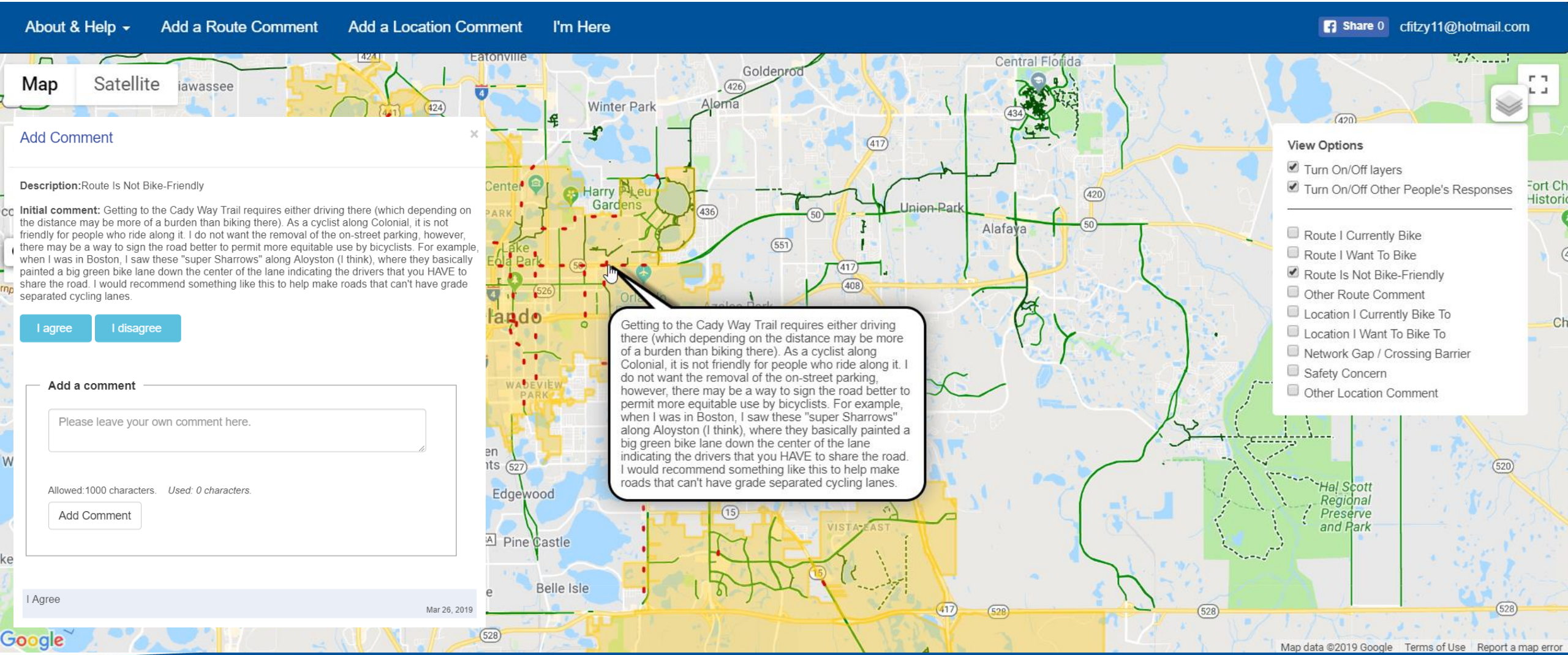

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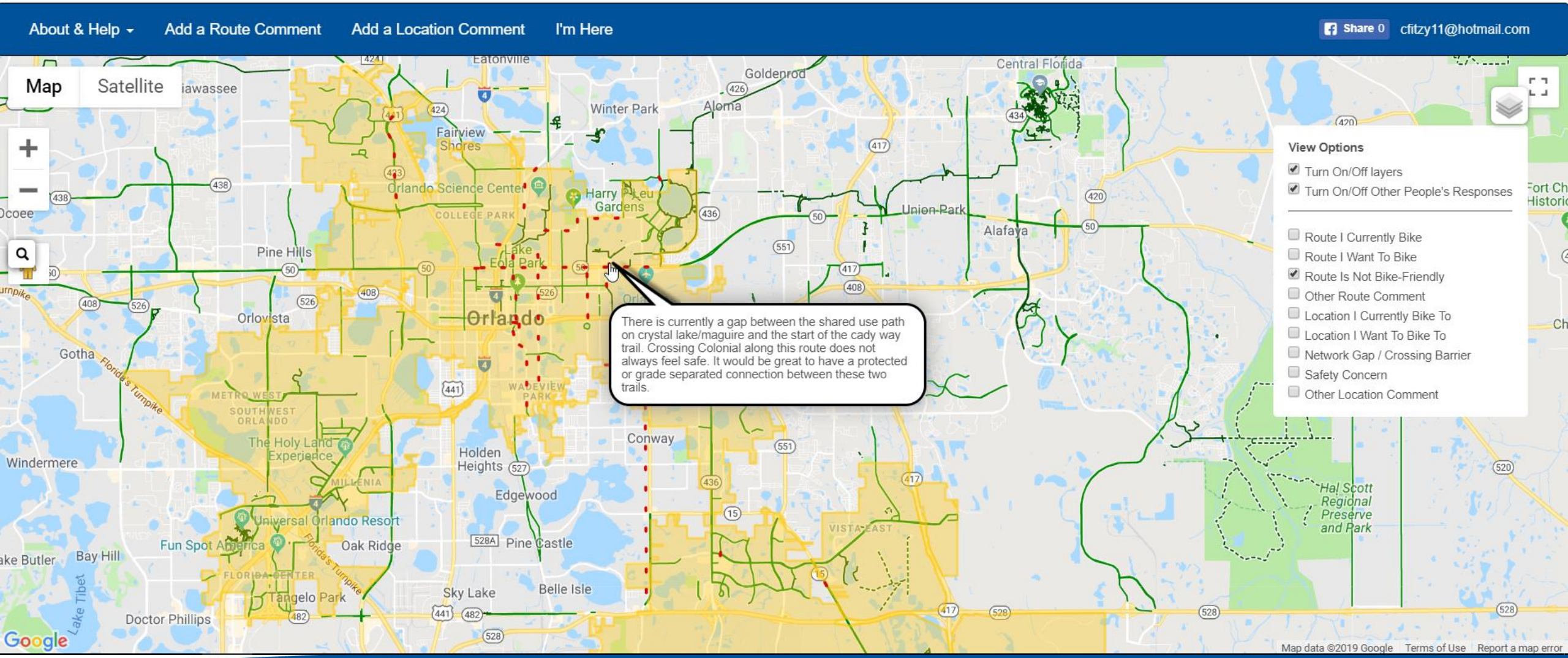

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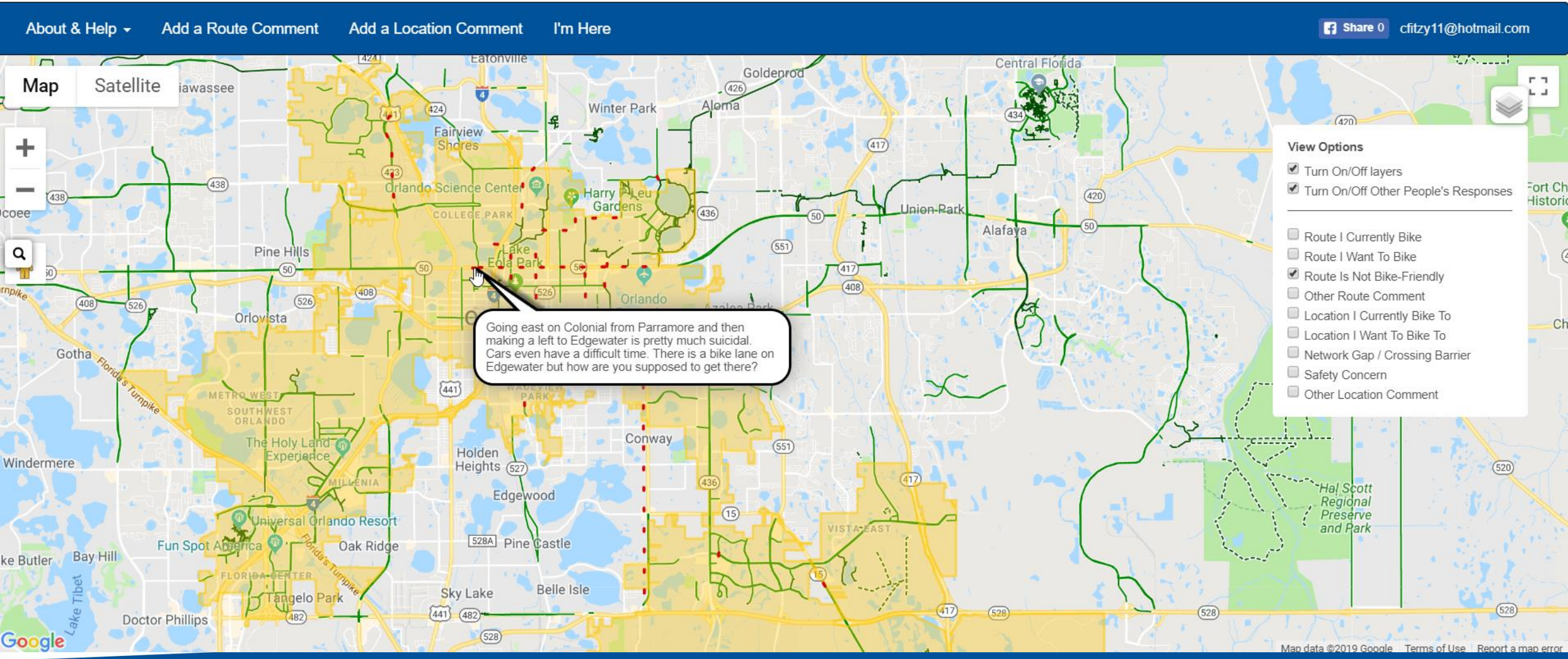

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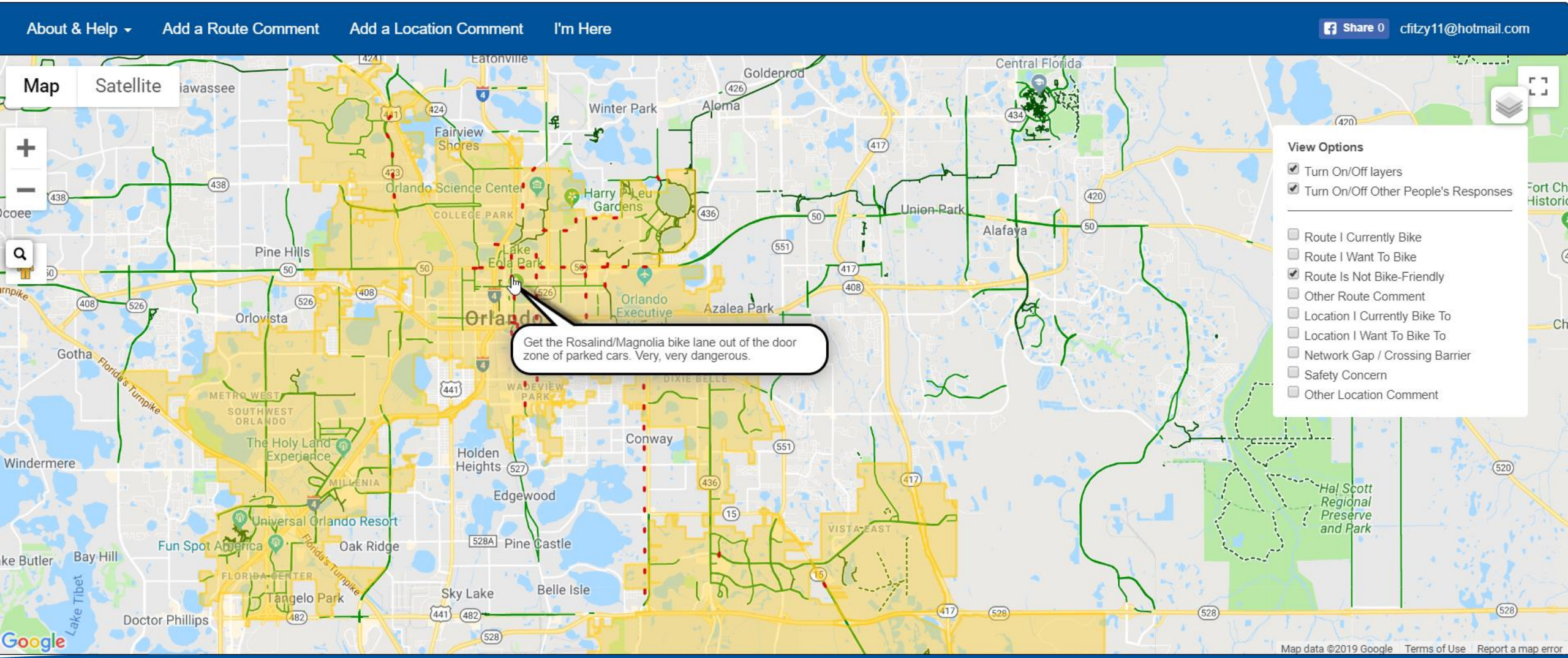

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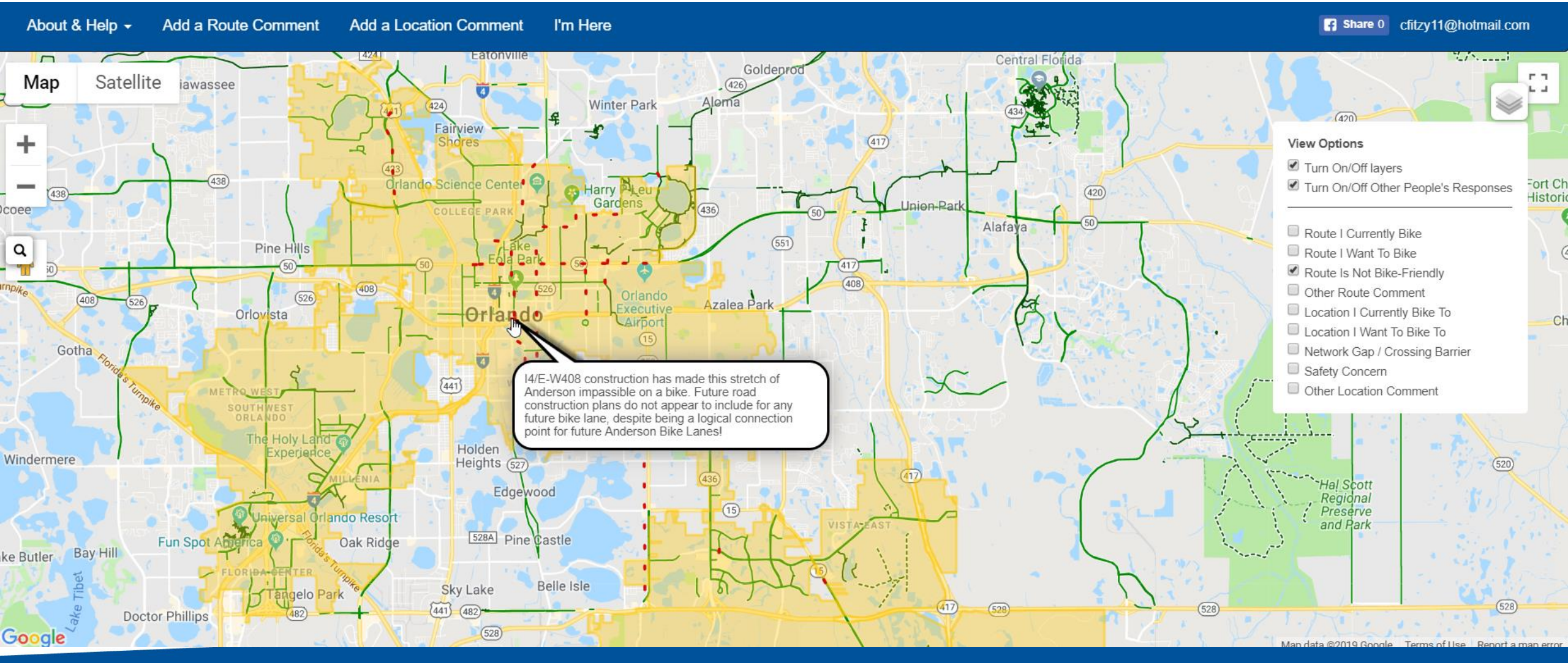

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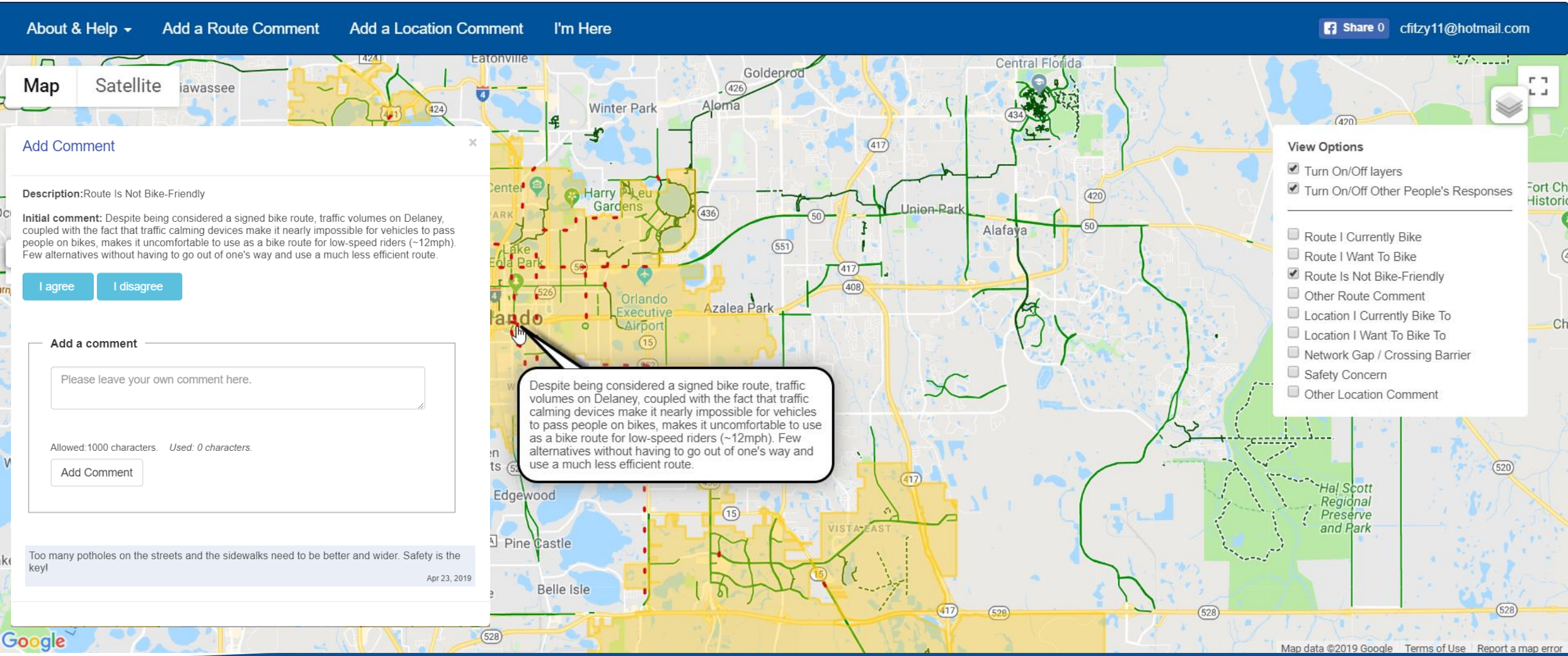

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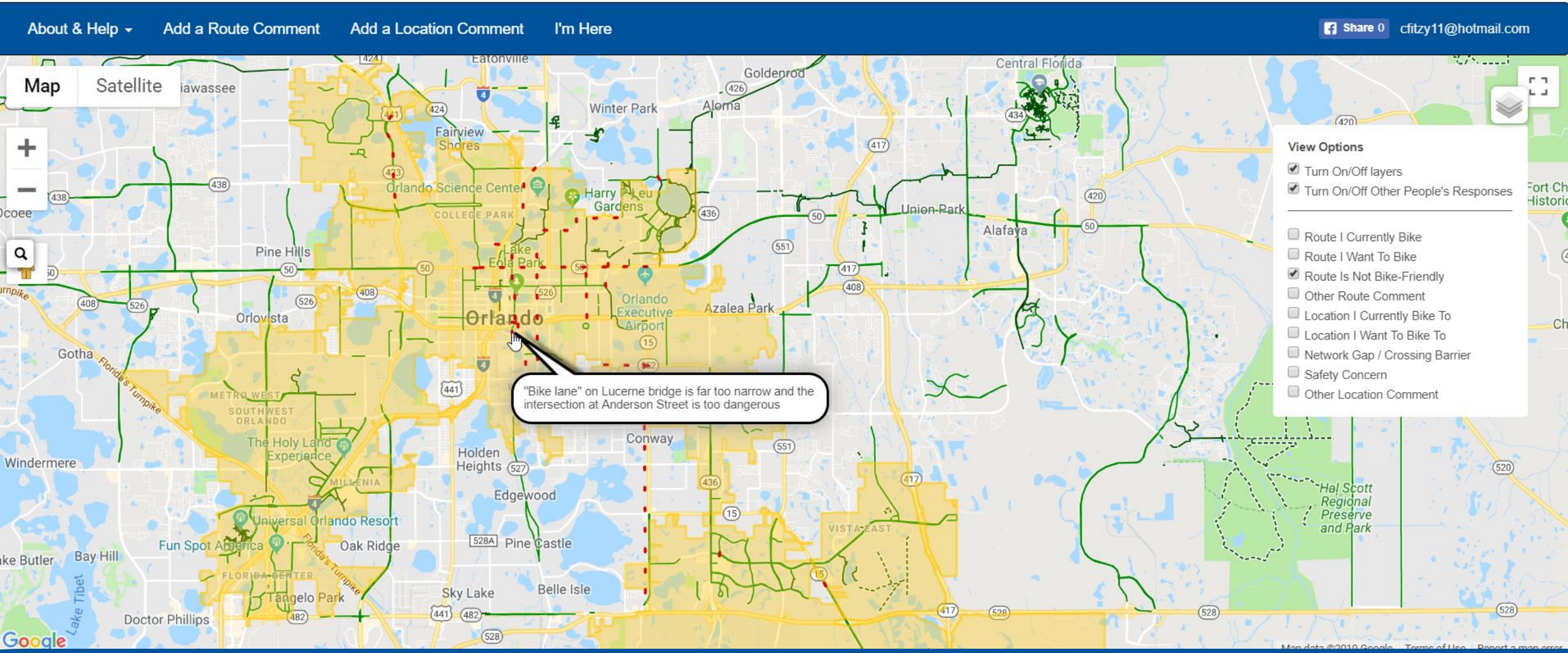

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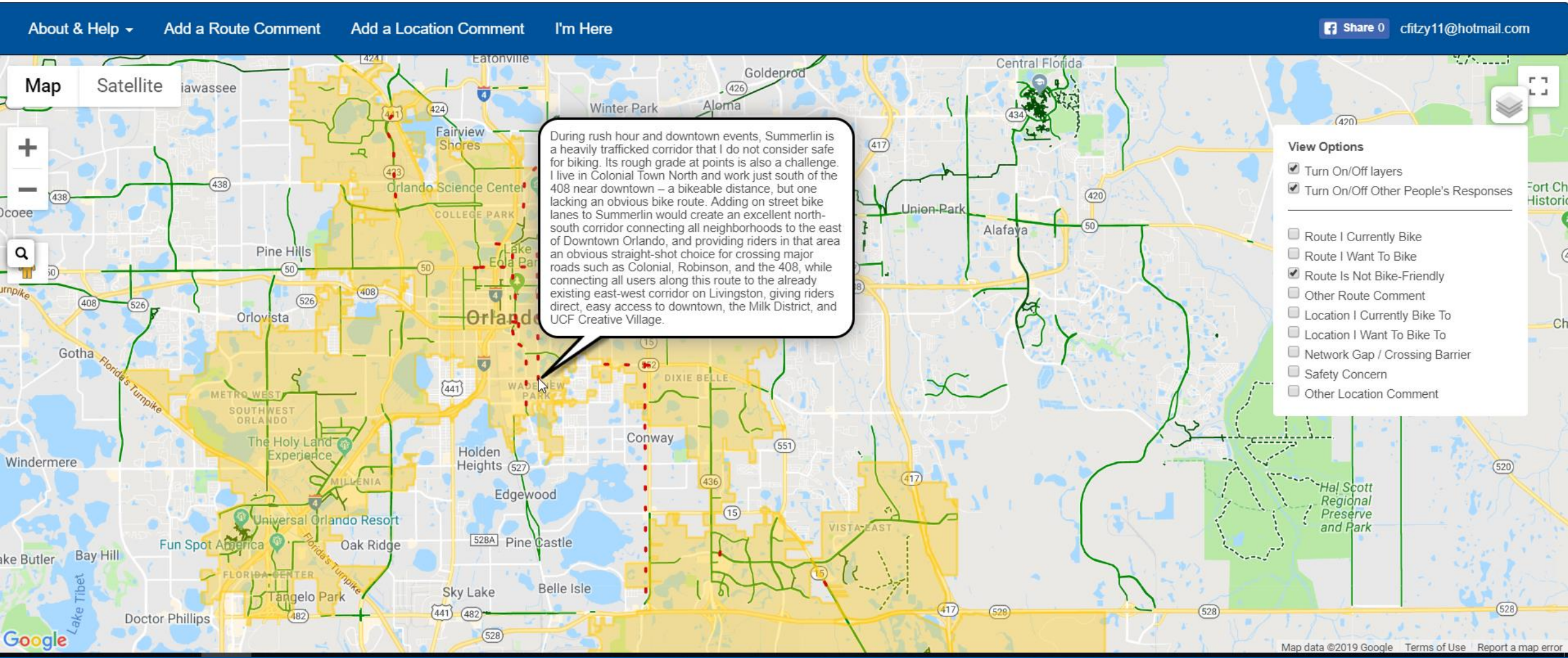

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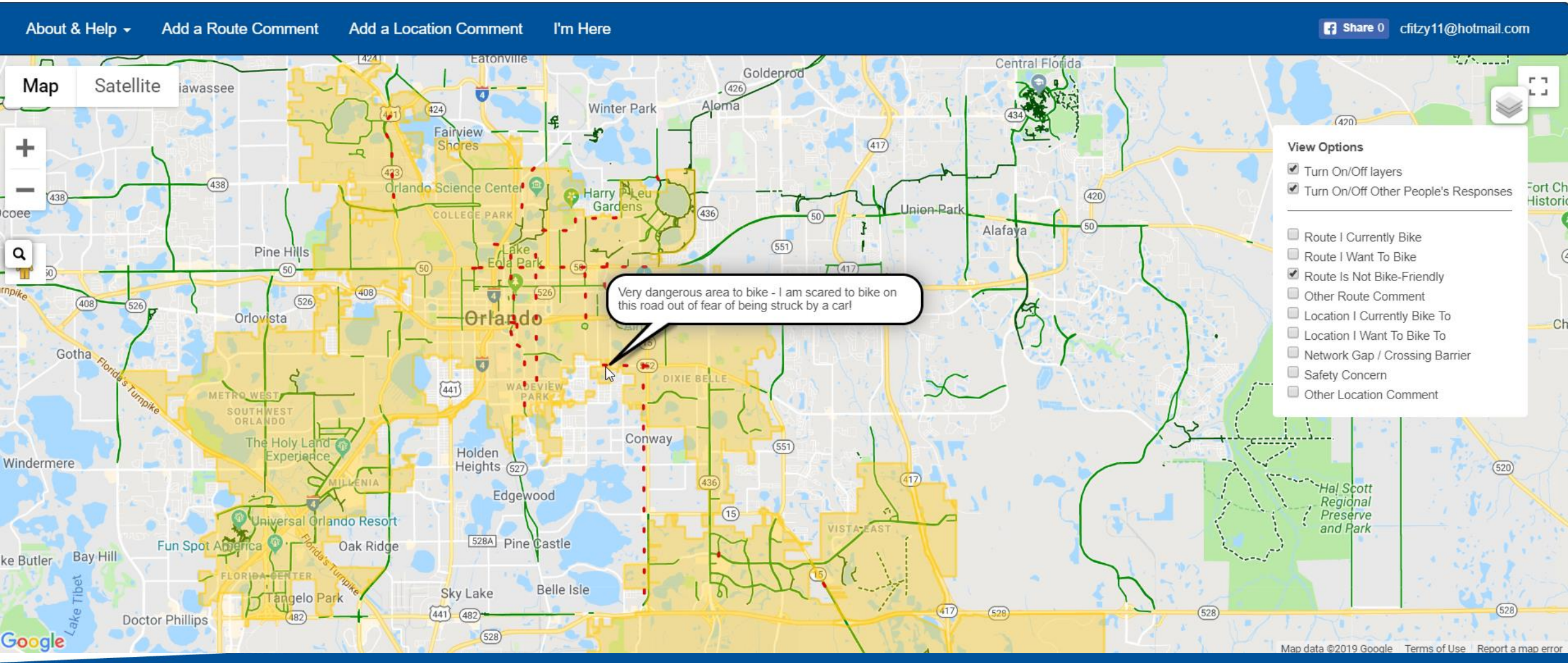

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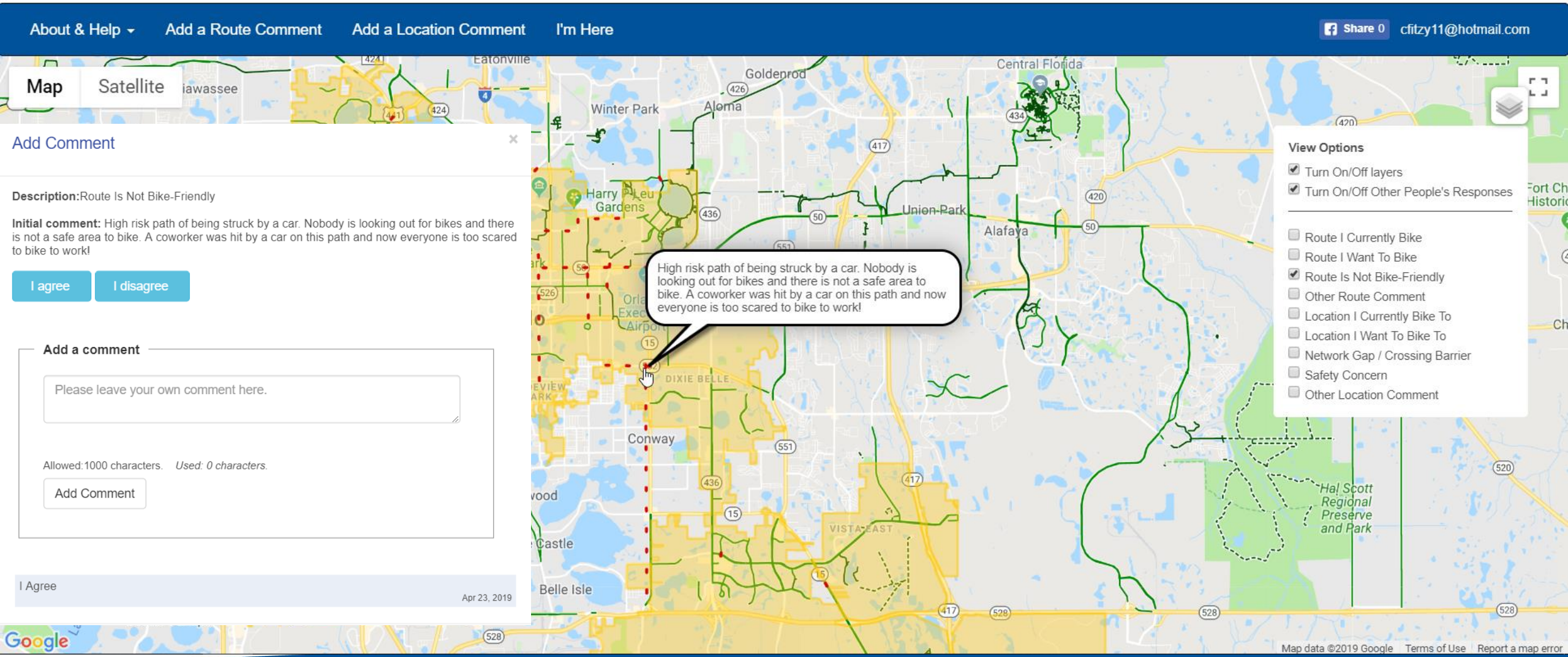

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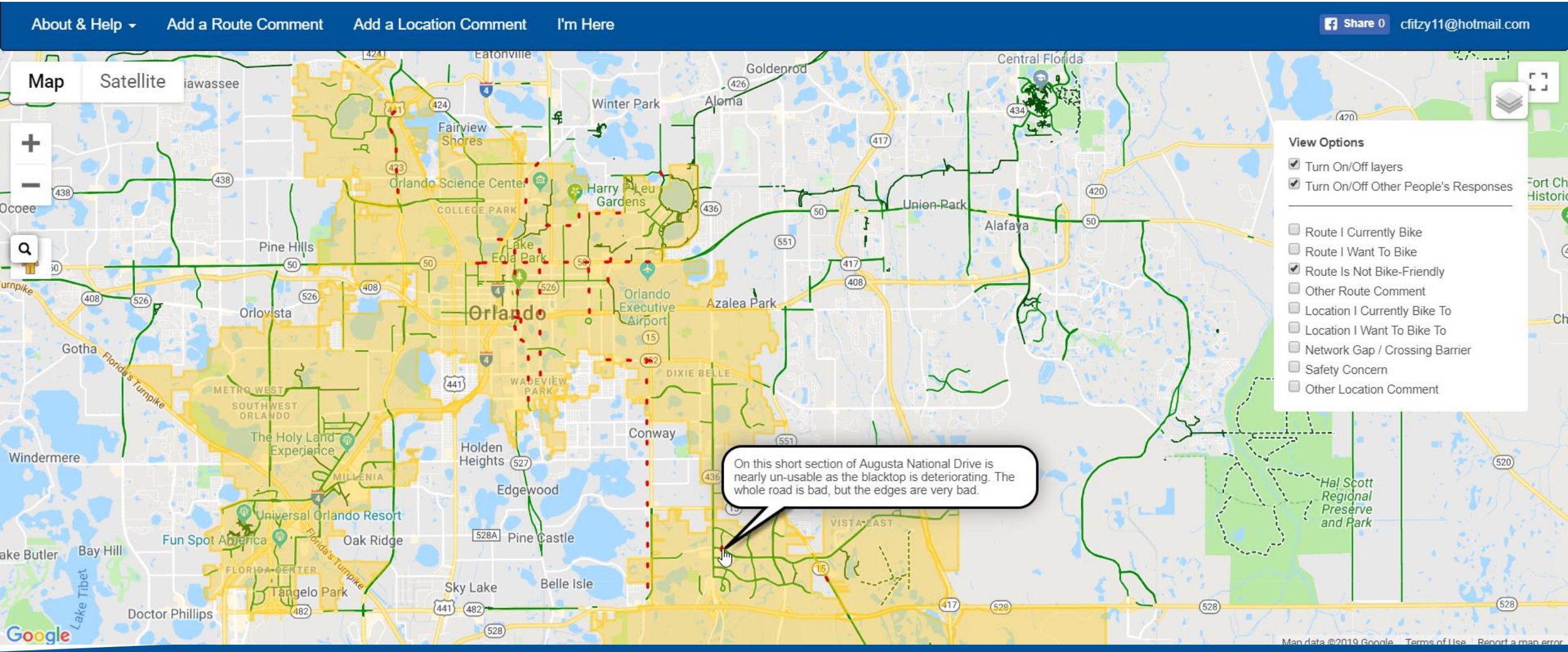

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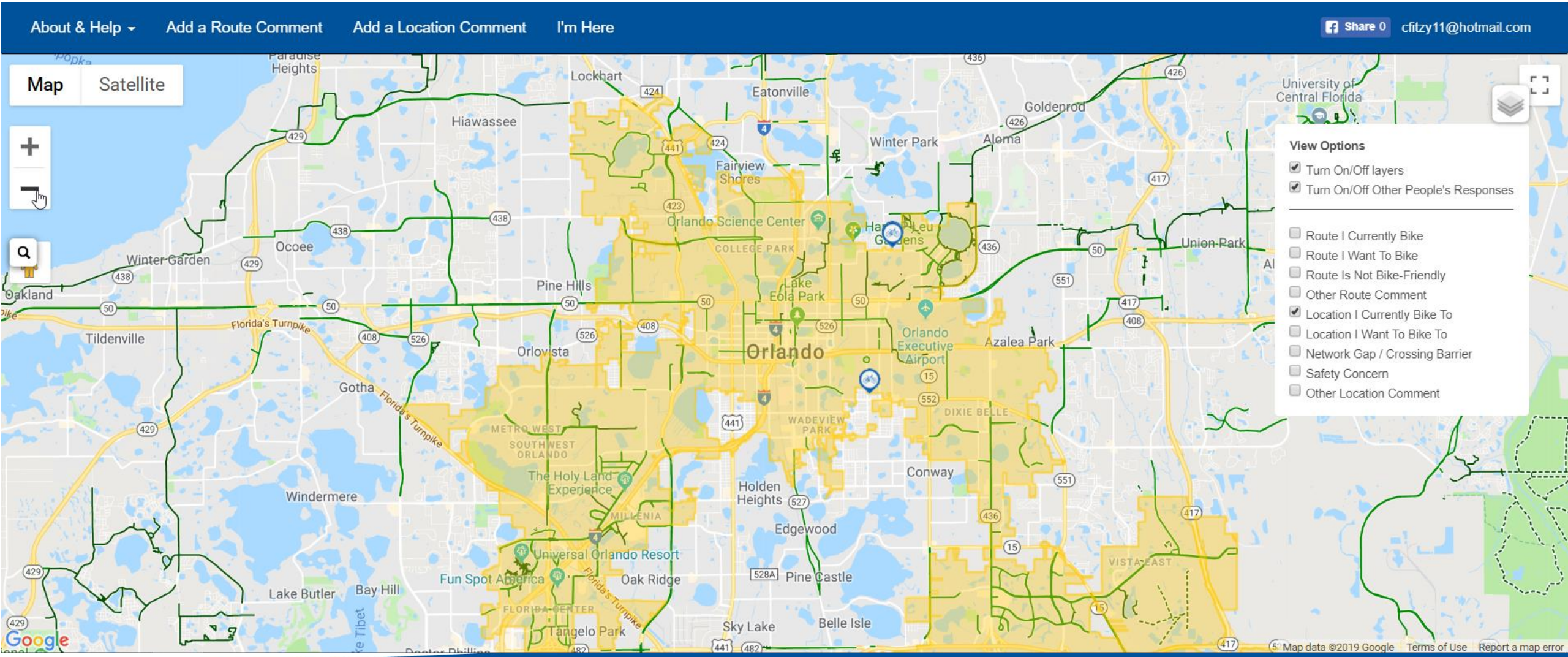
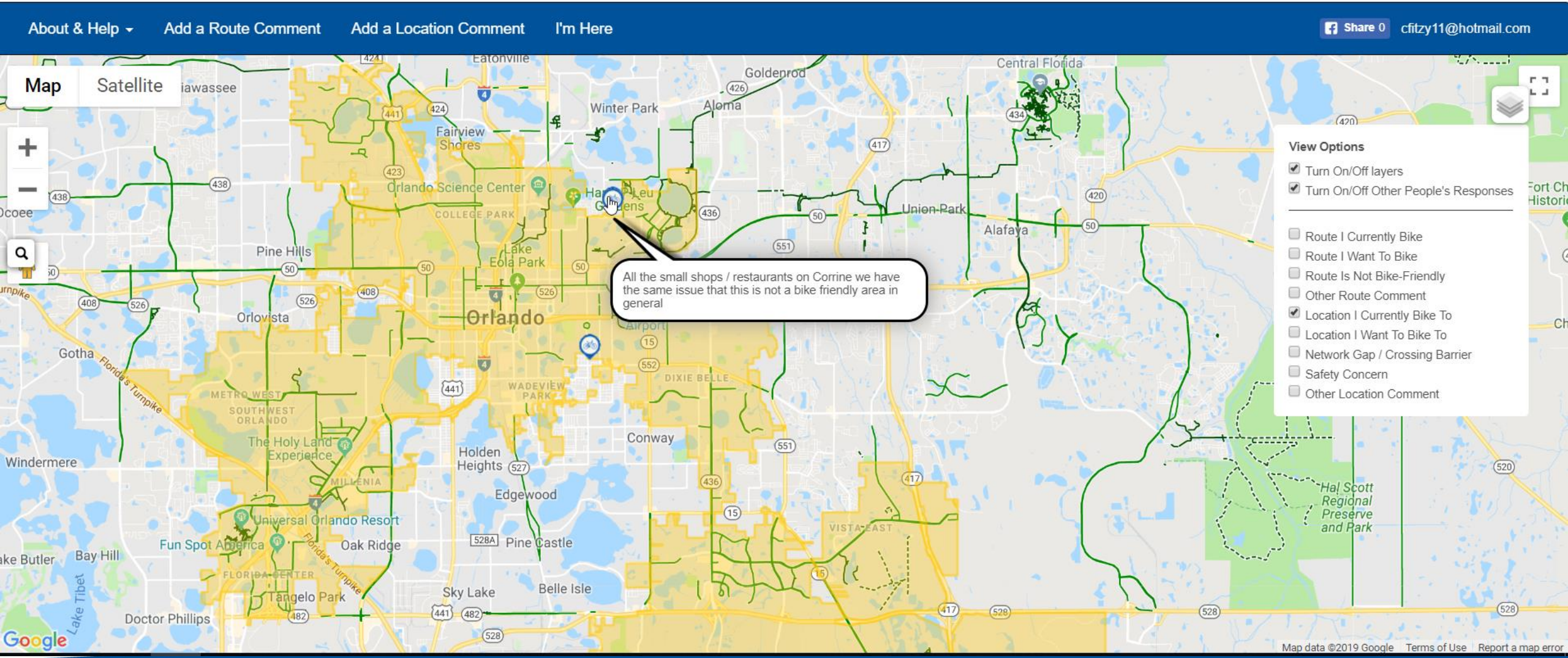


Location I Currently Bike To

BIKE PLAN UPDATE



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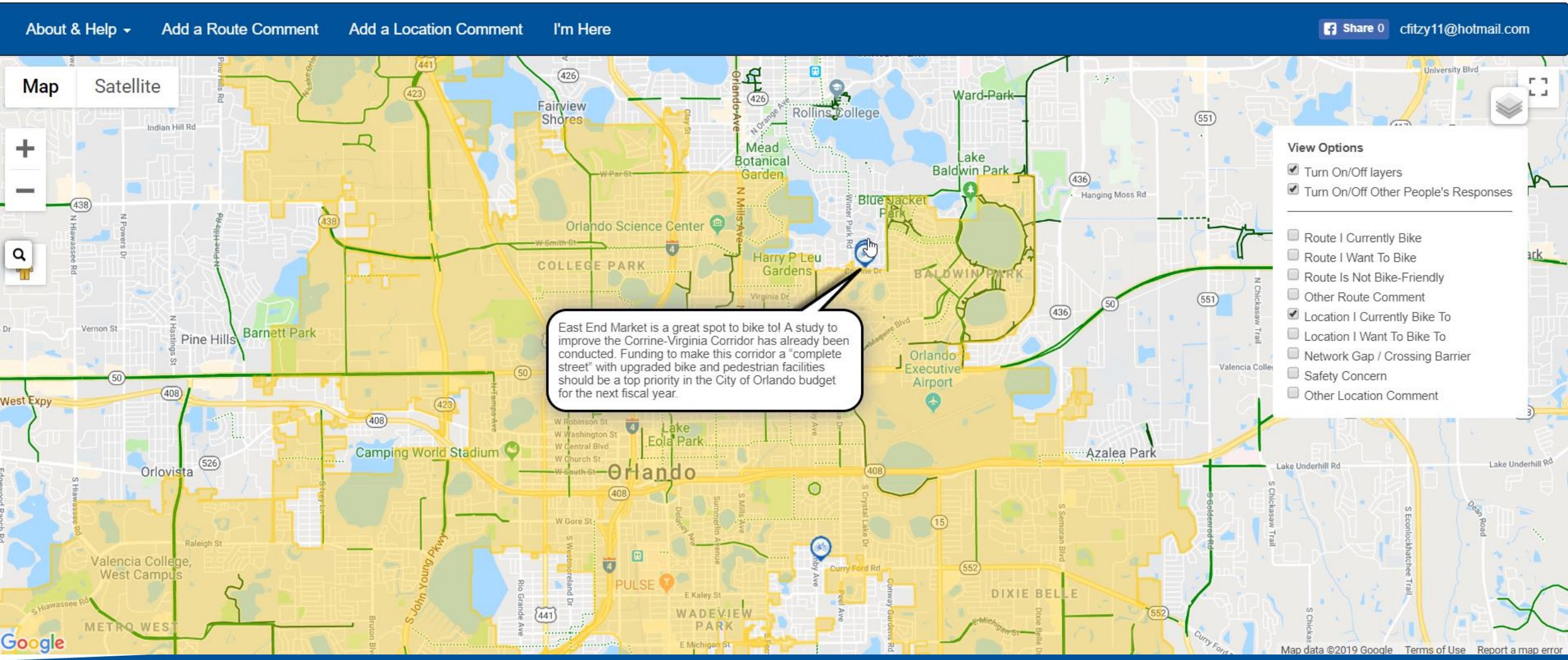

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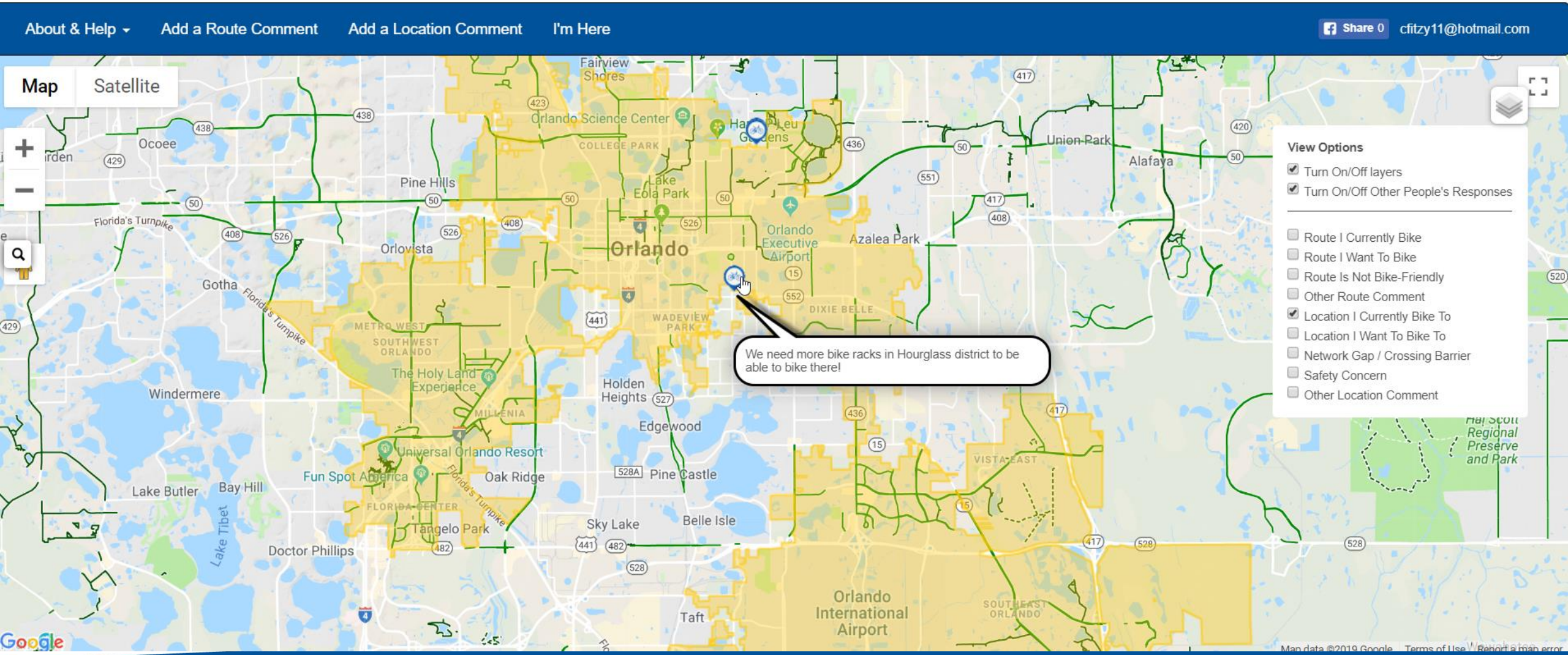

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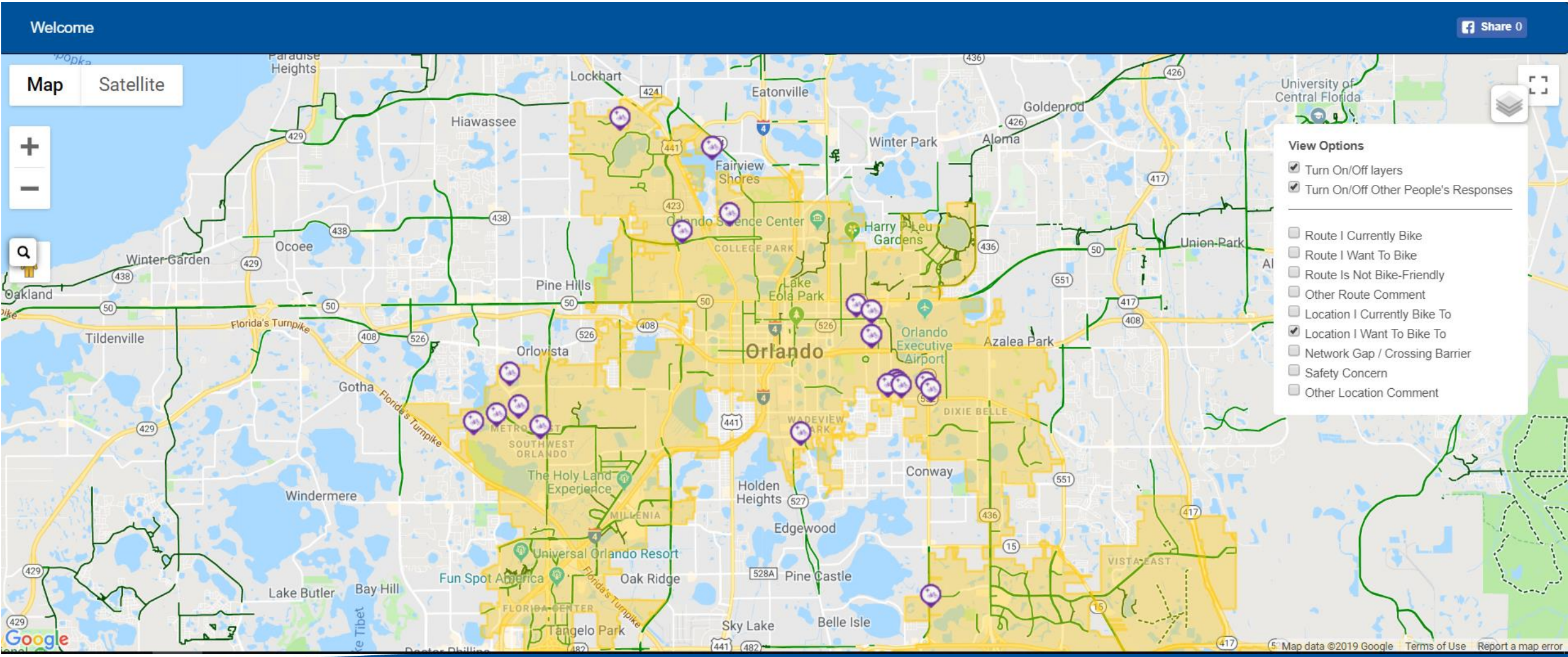
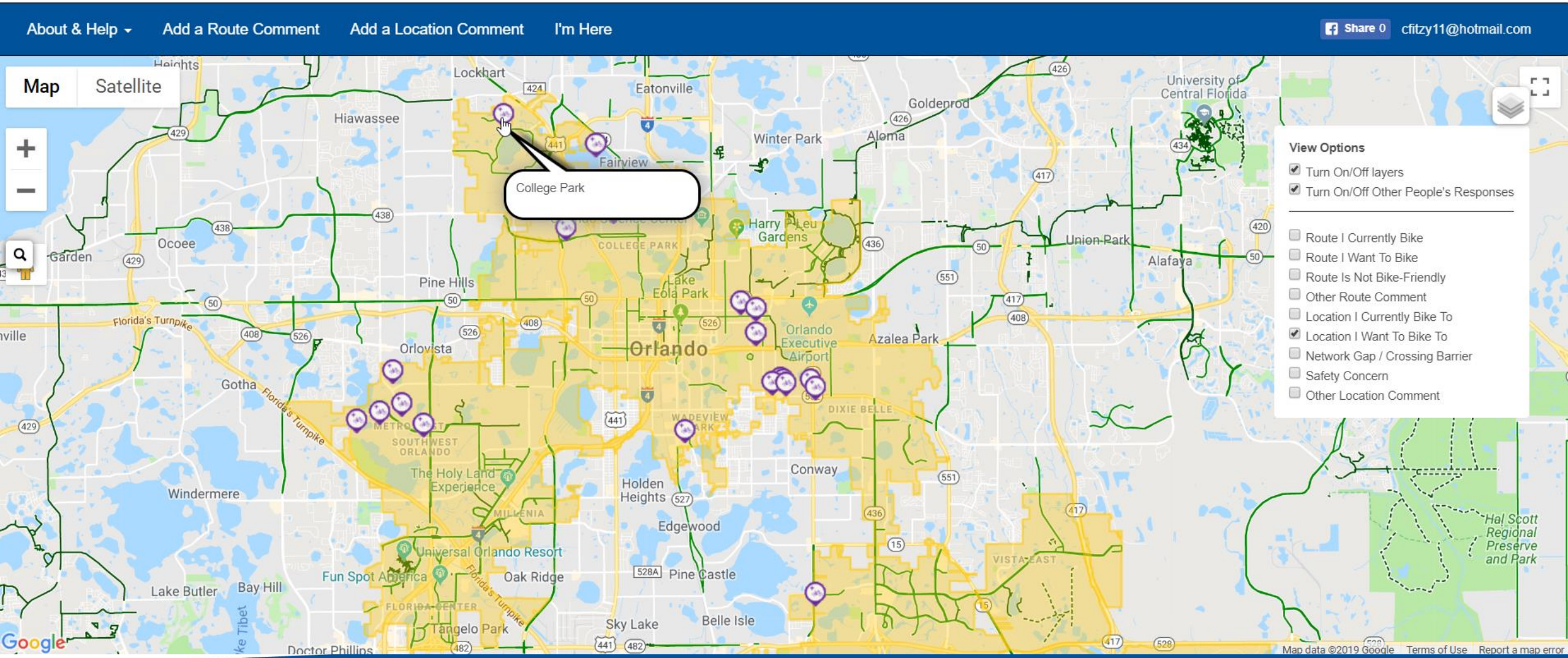


Location I Want To Bike To

BIKE PLAN UPDATE



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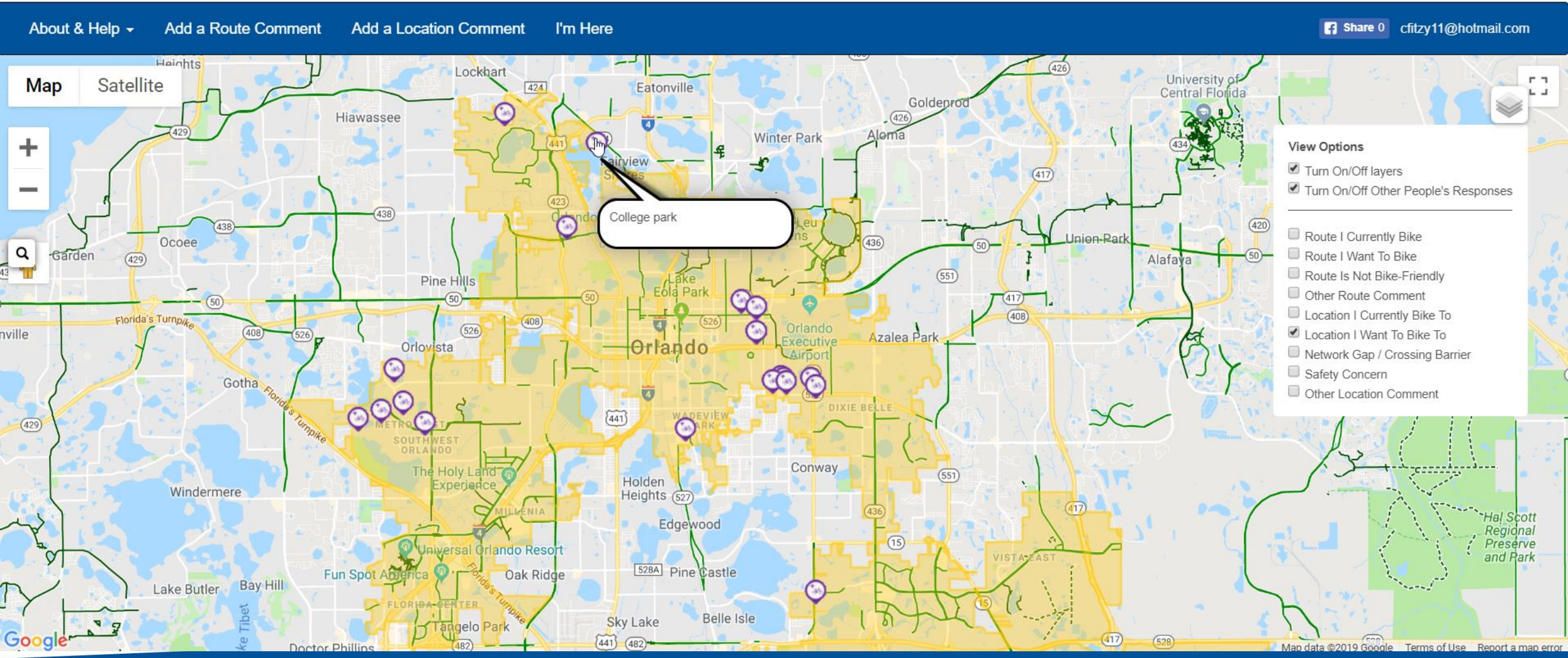

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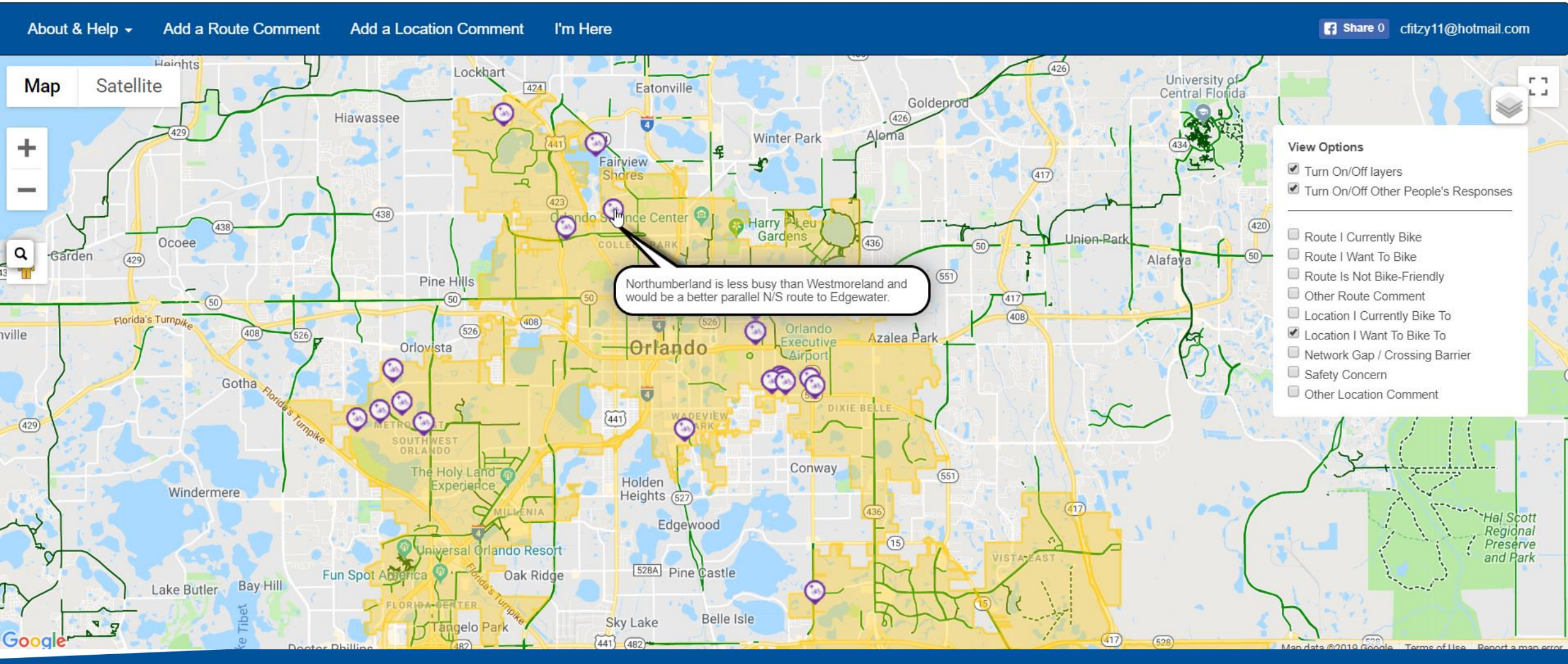

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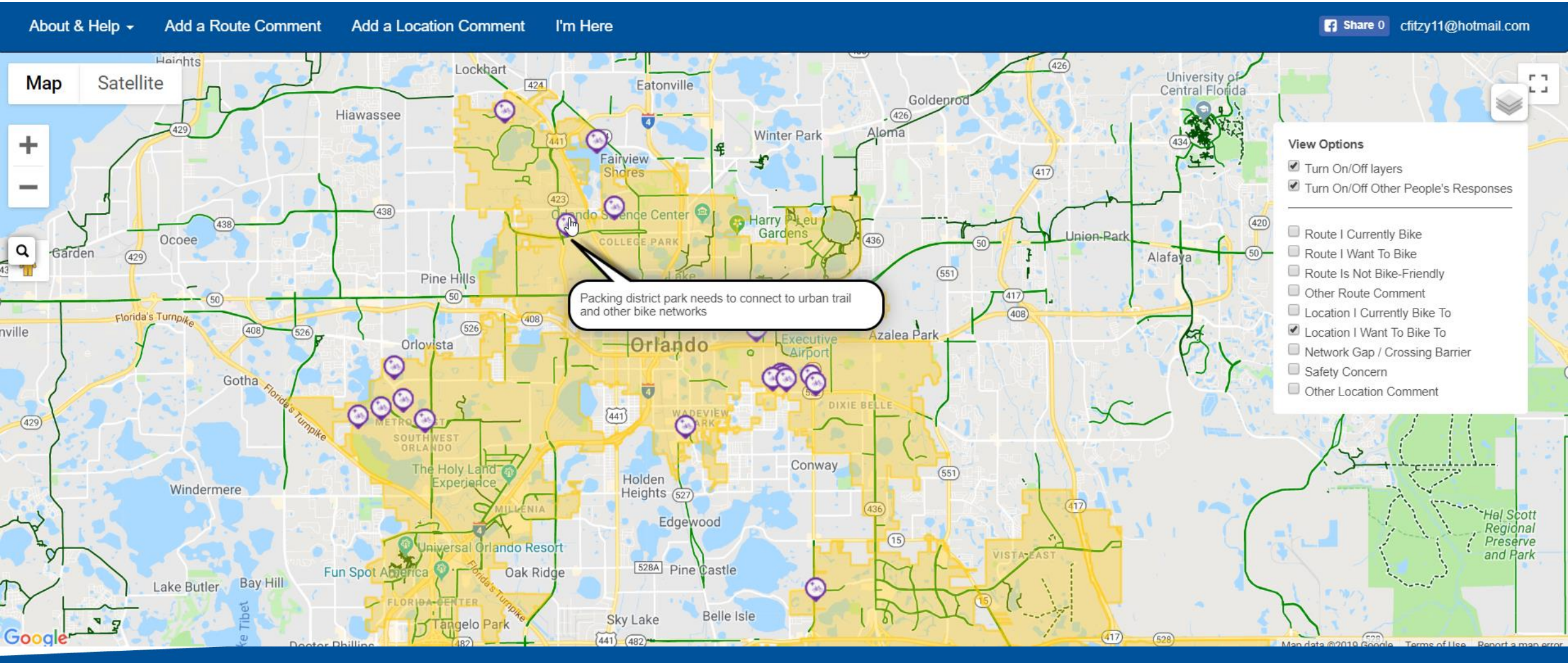

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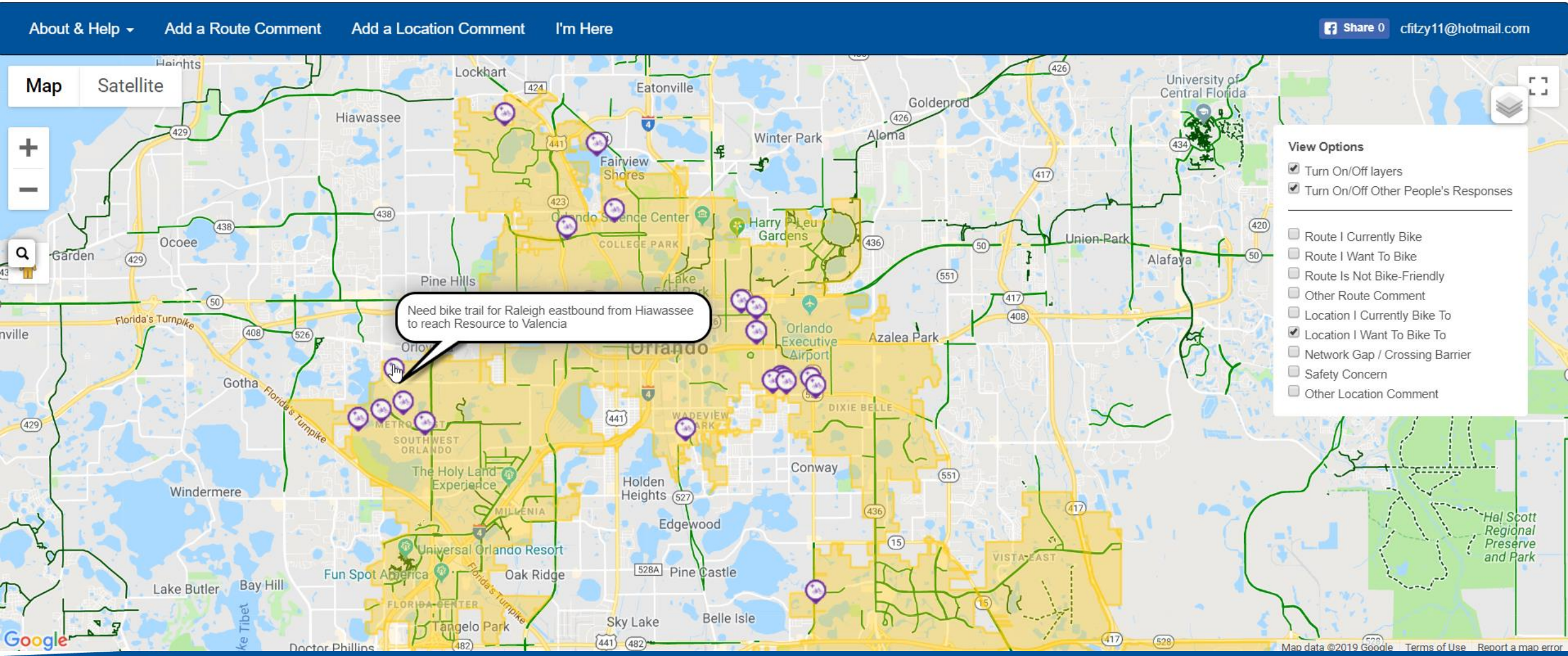

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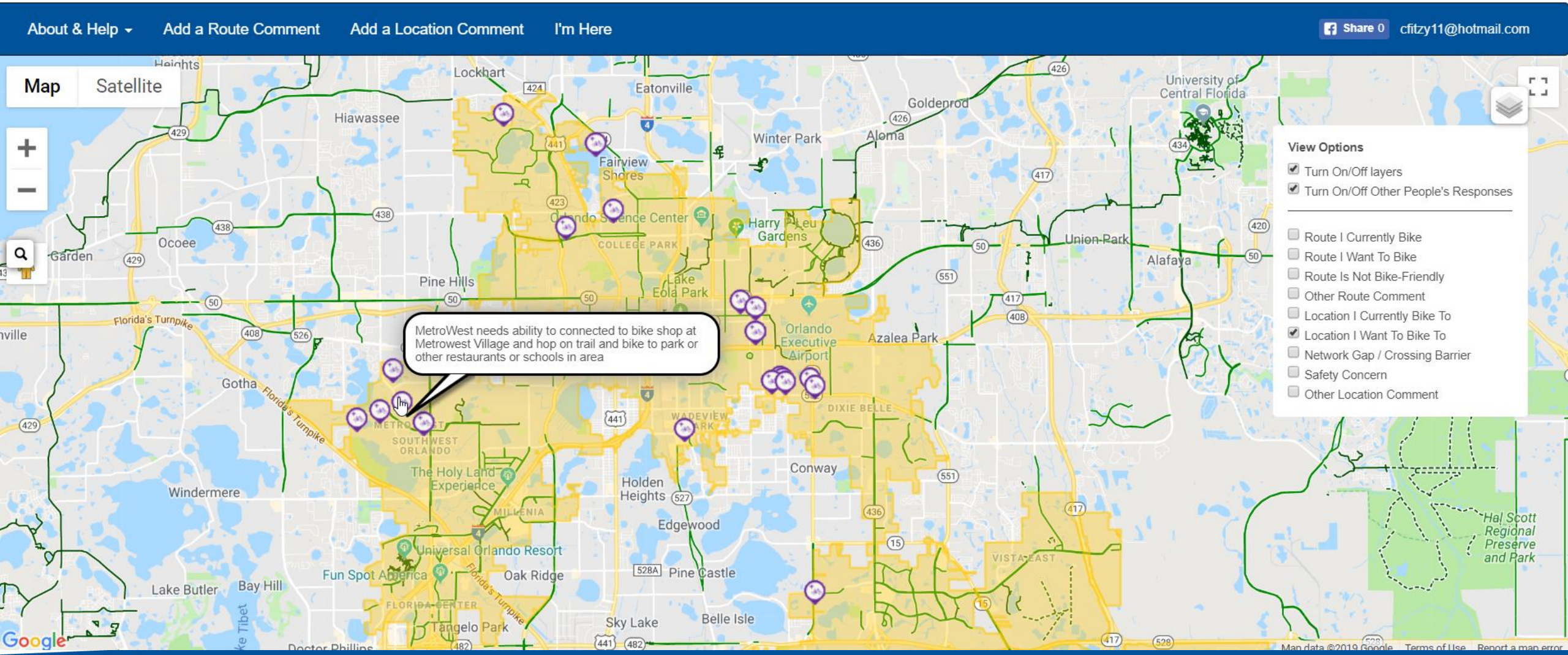

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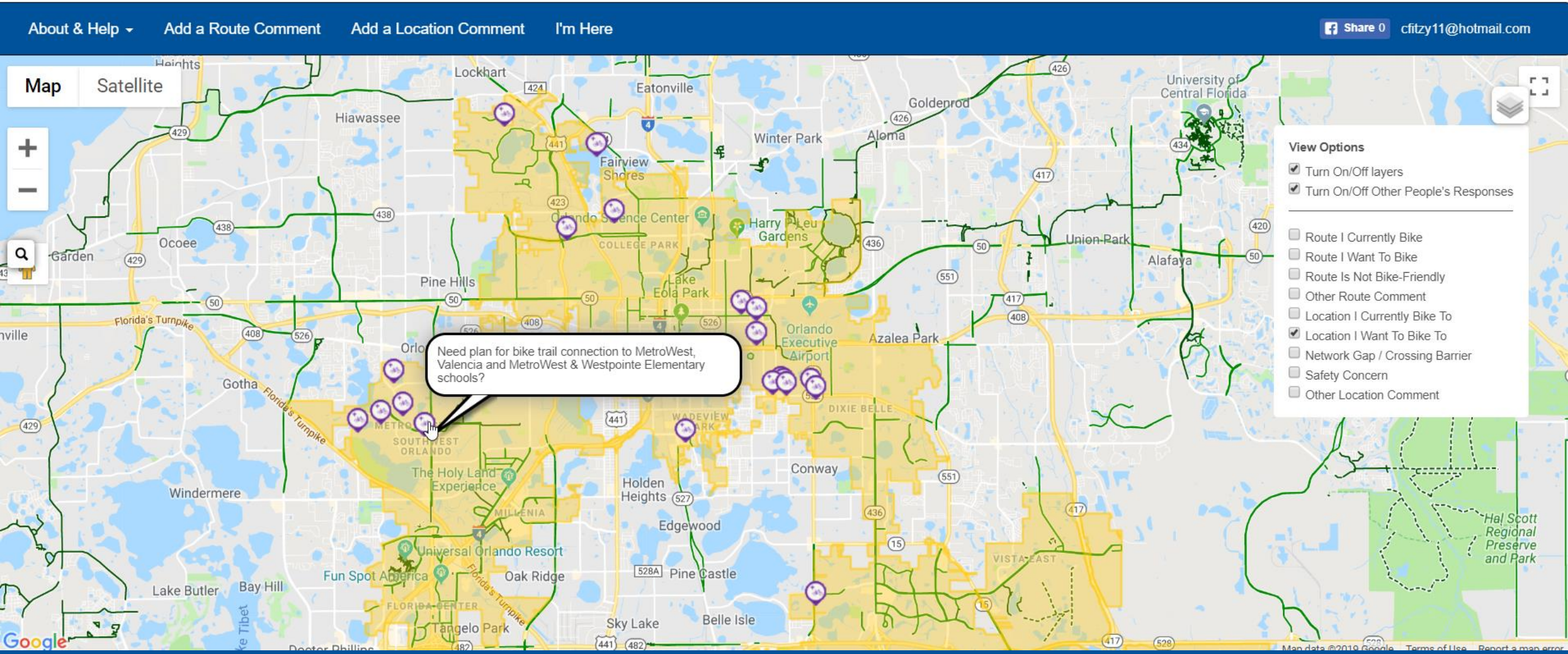
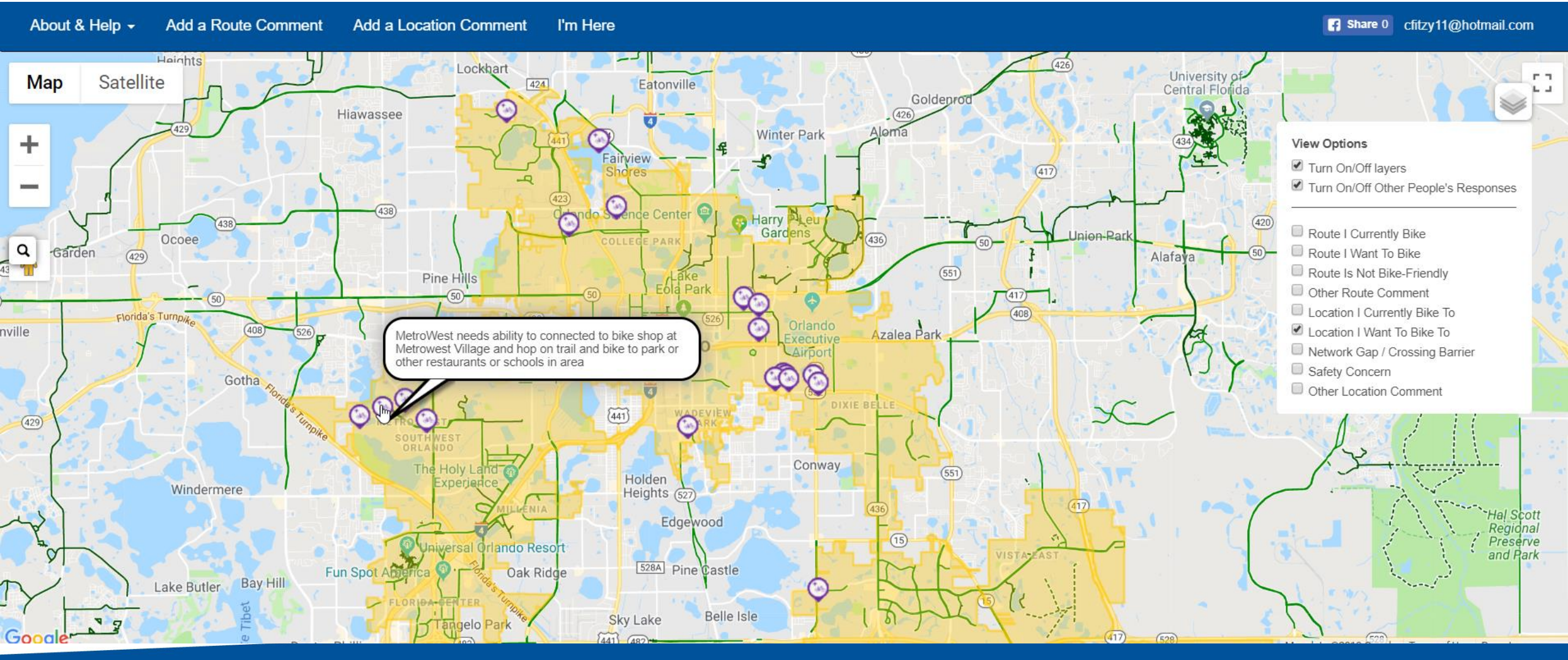


BIKE PLAN UPDATE



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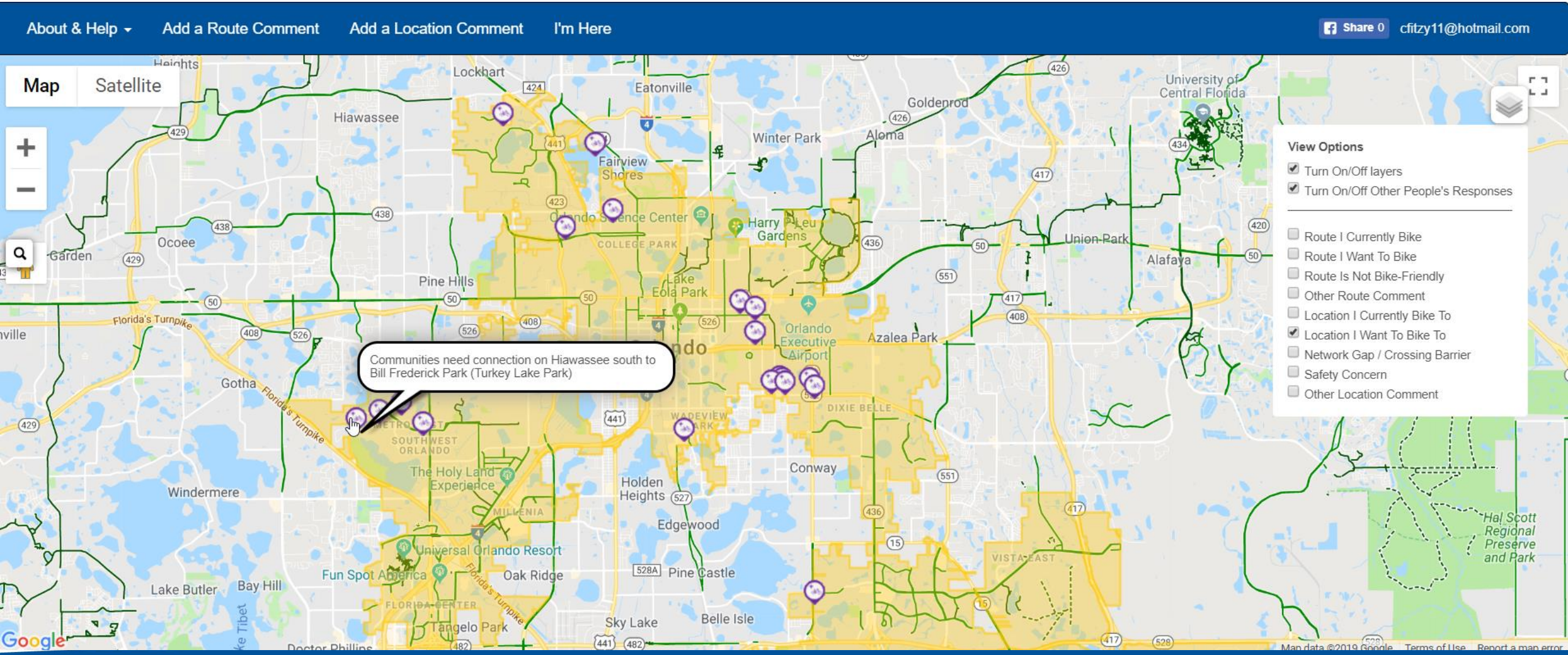

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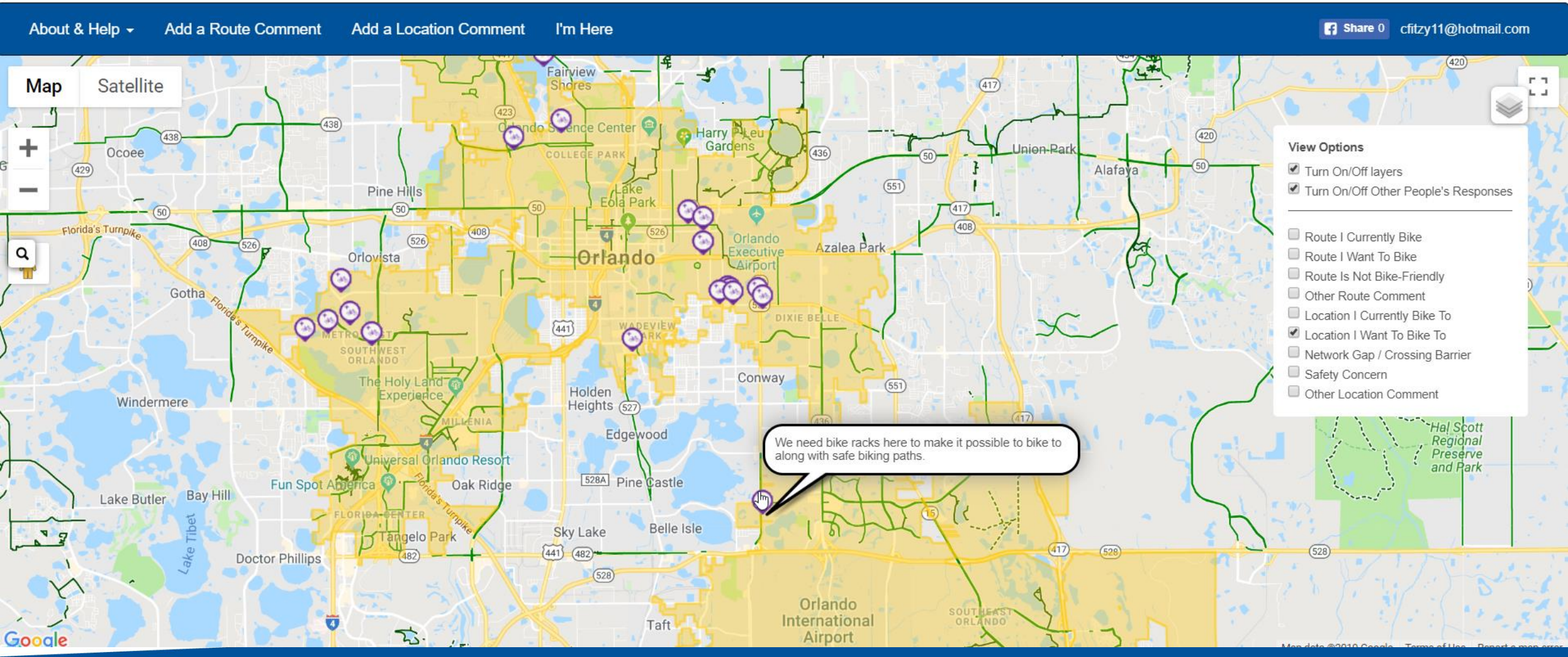

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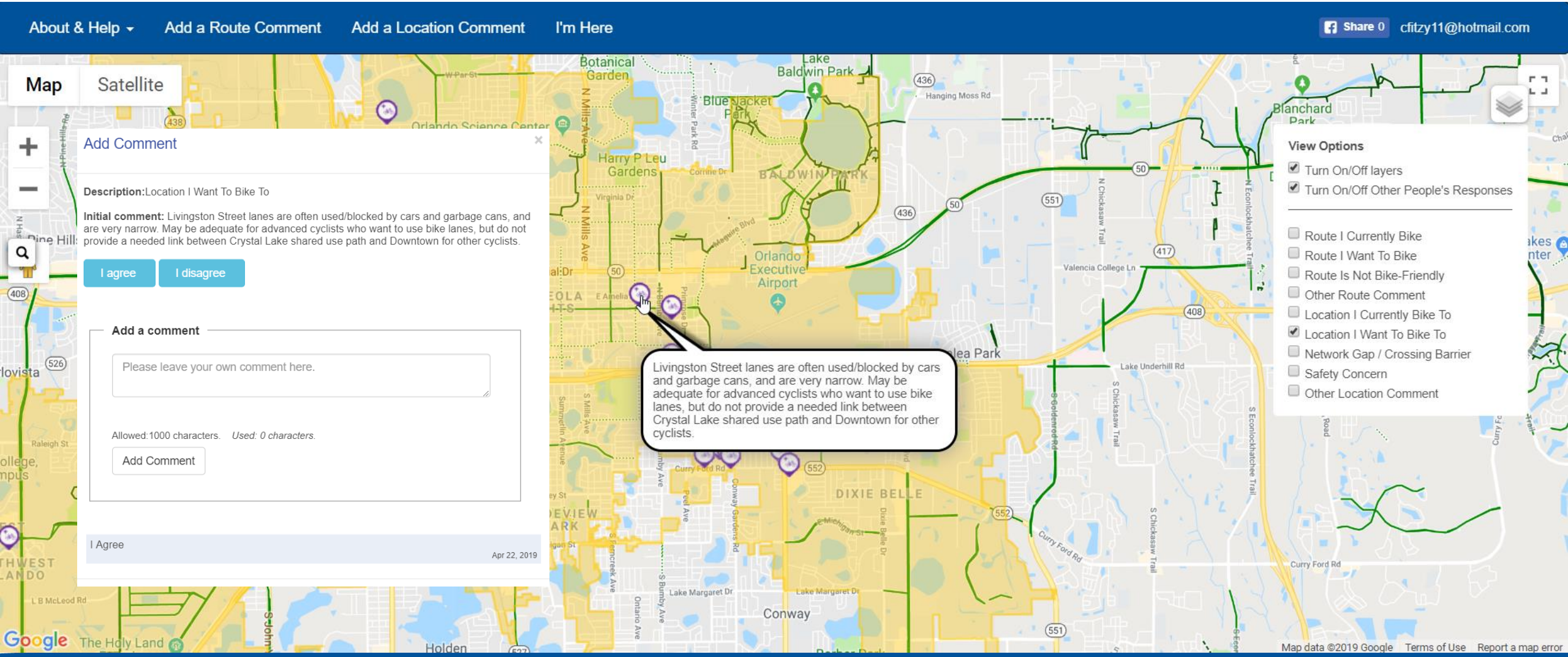

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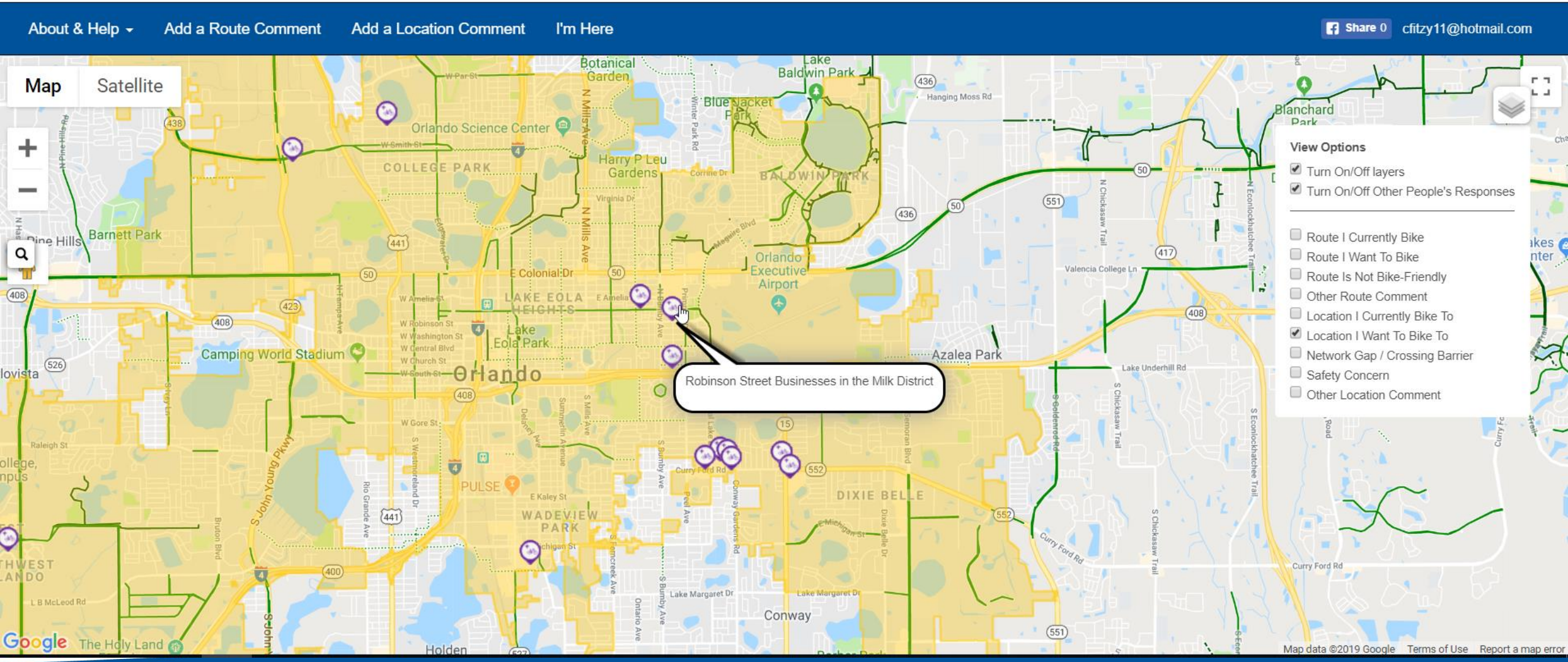

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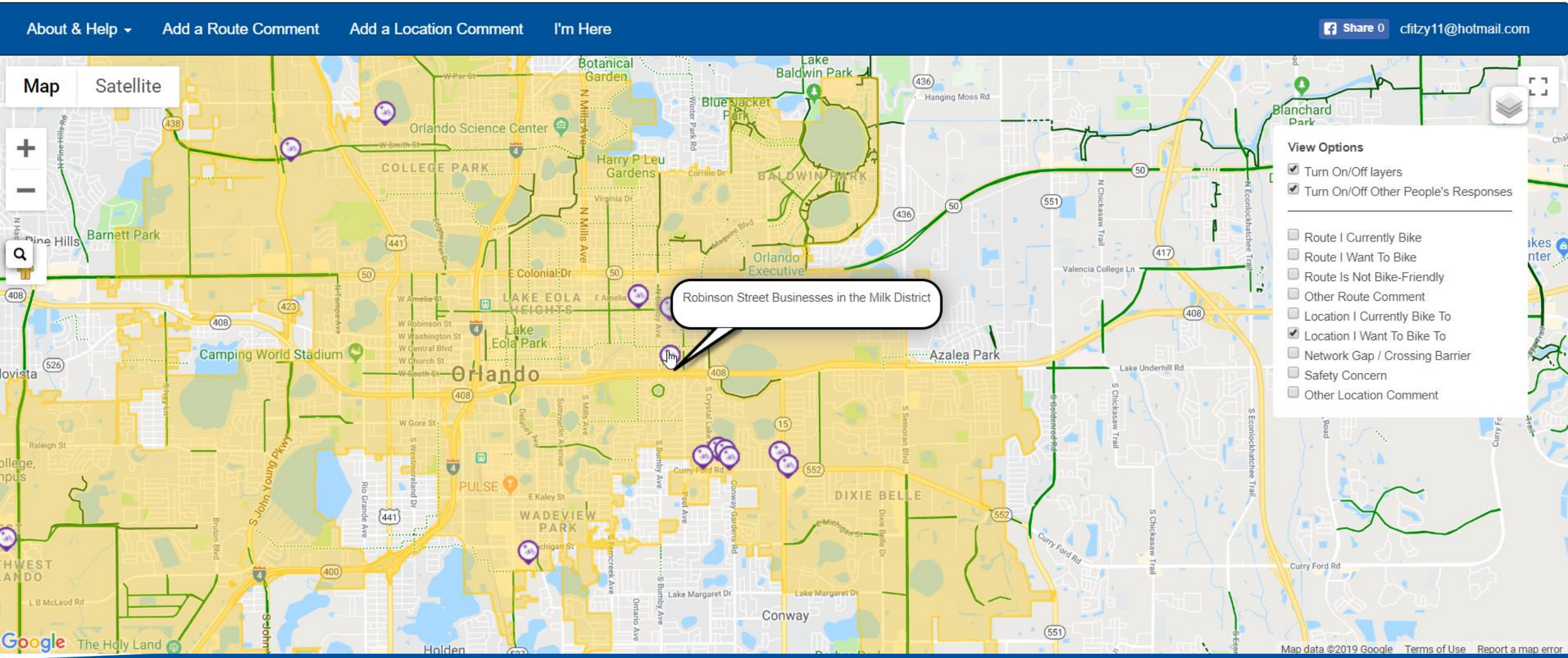

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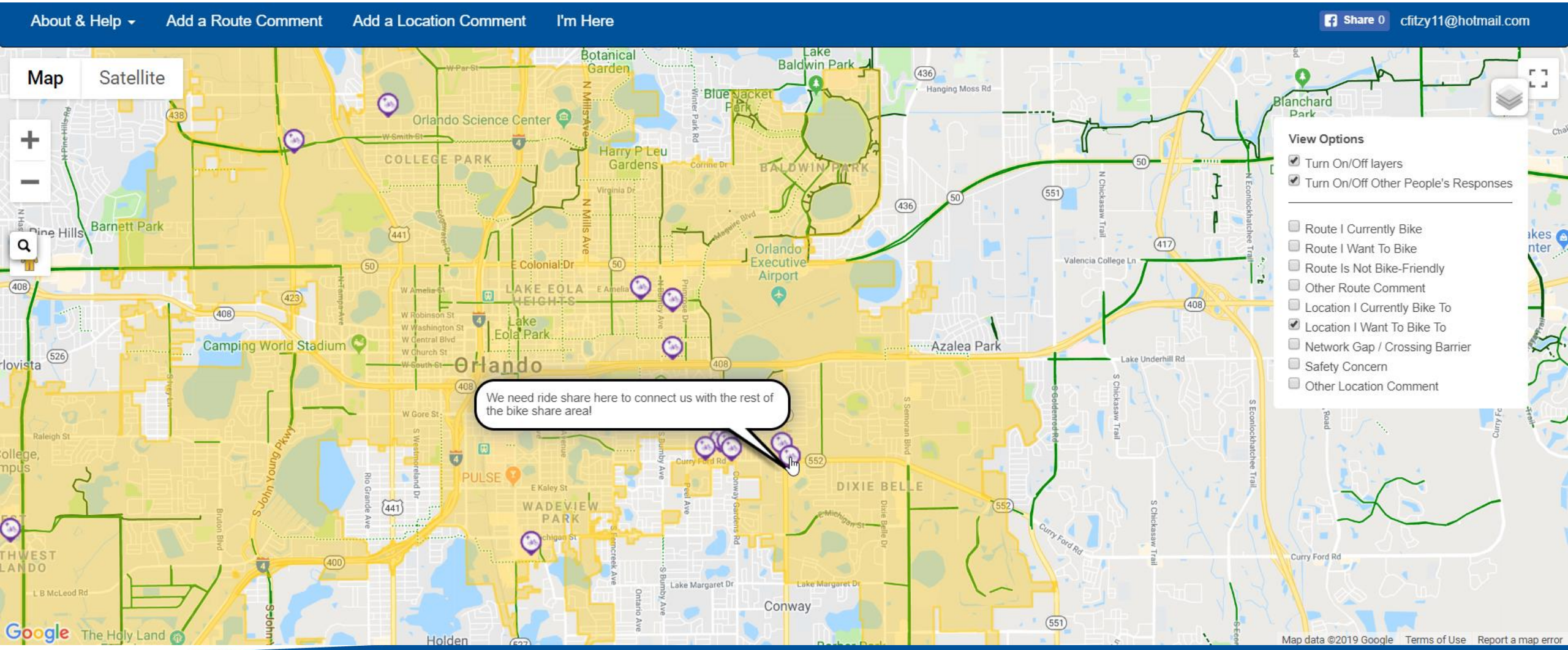

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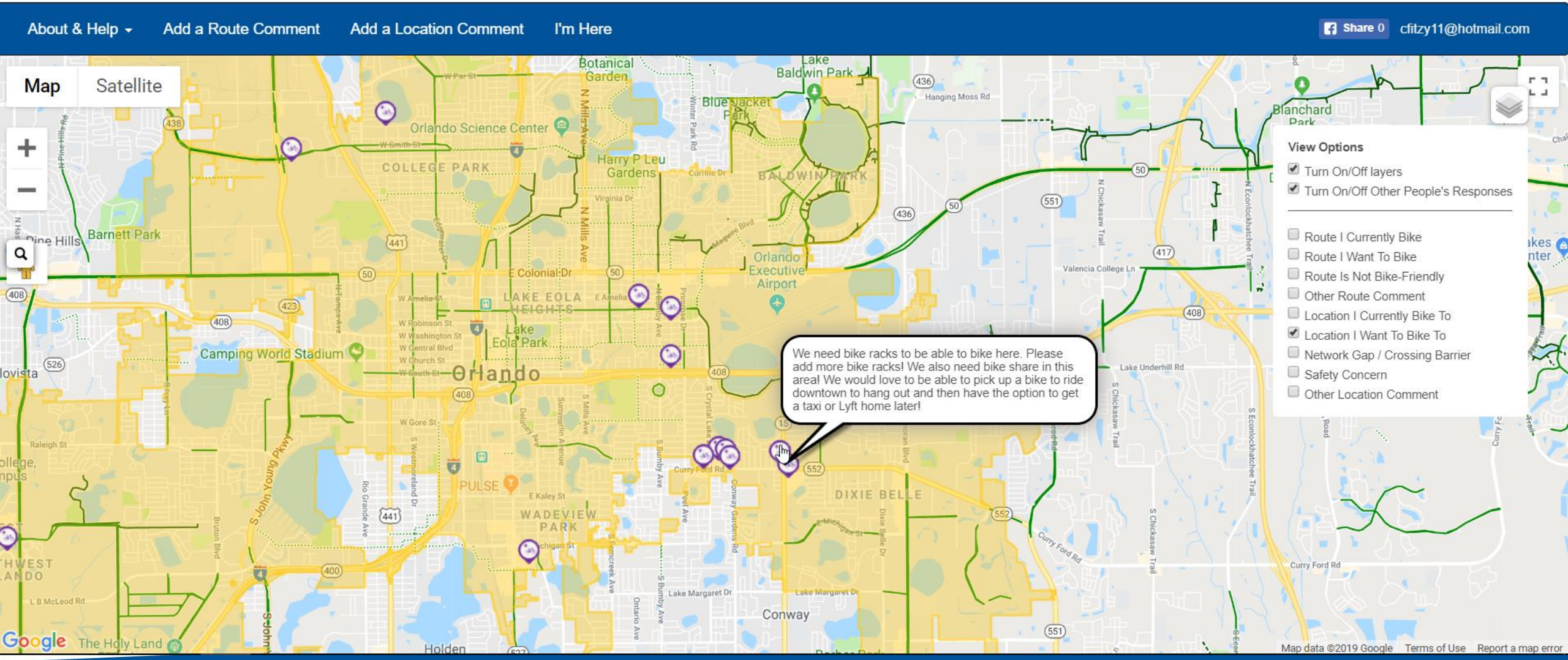

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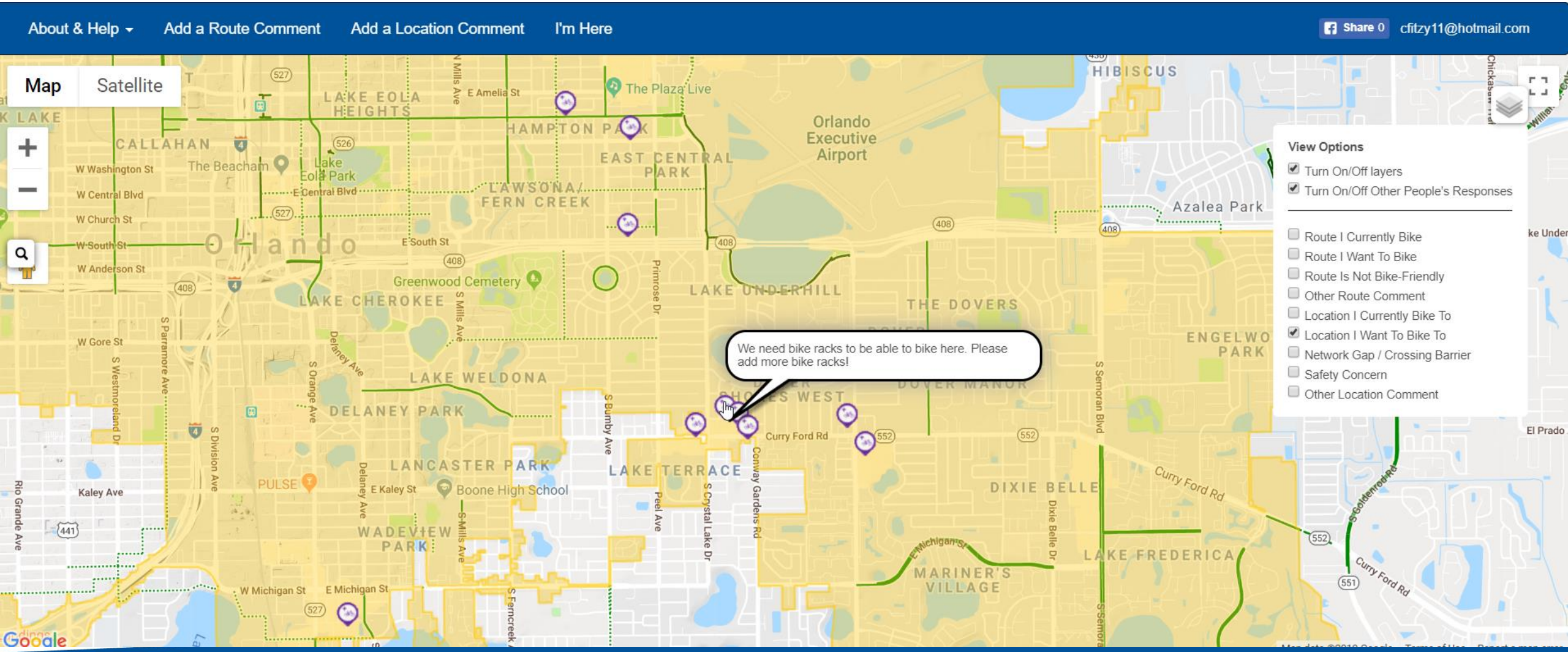

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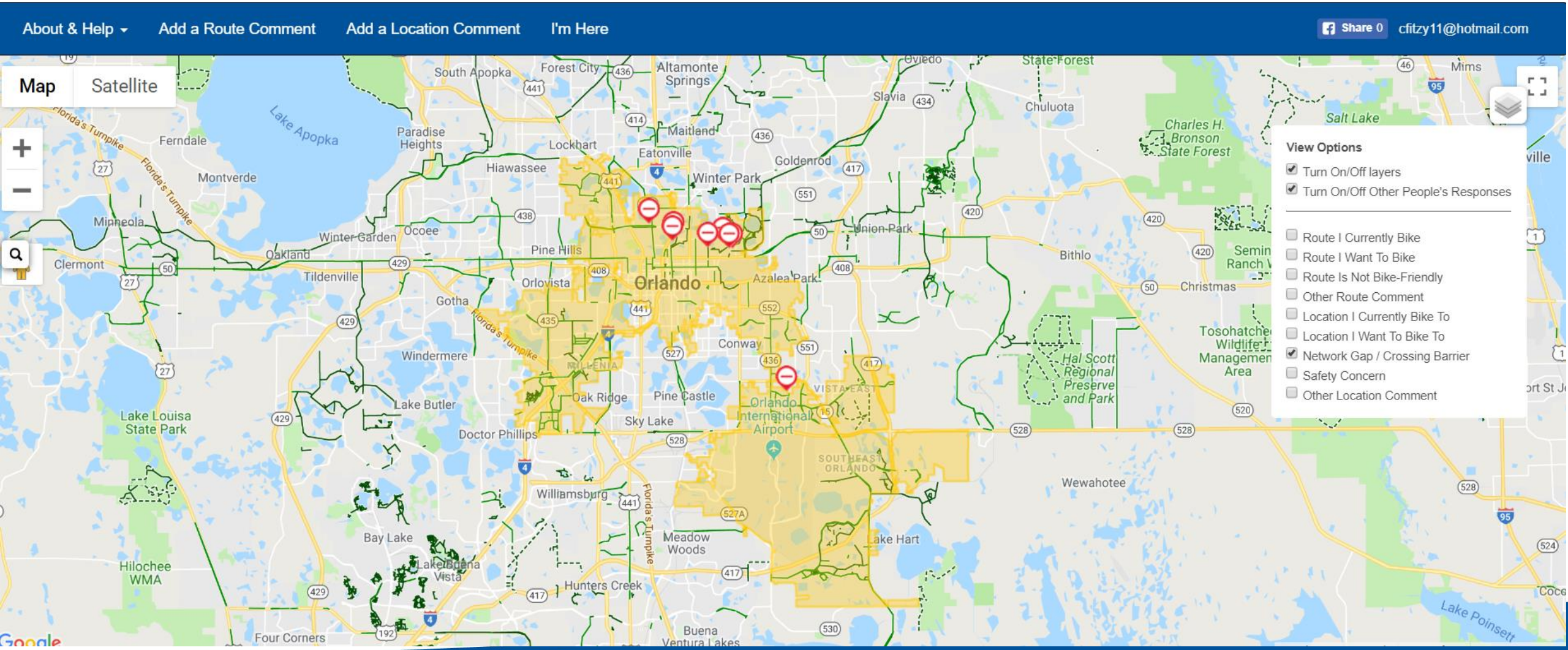

Network Gap / Crossing Barrier

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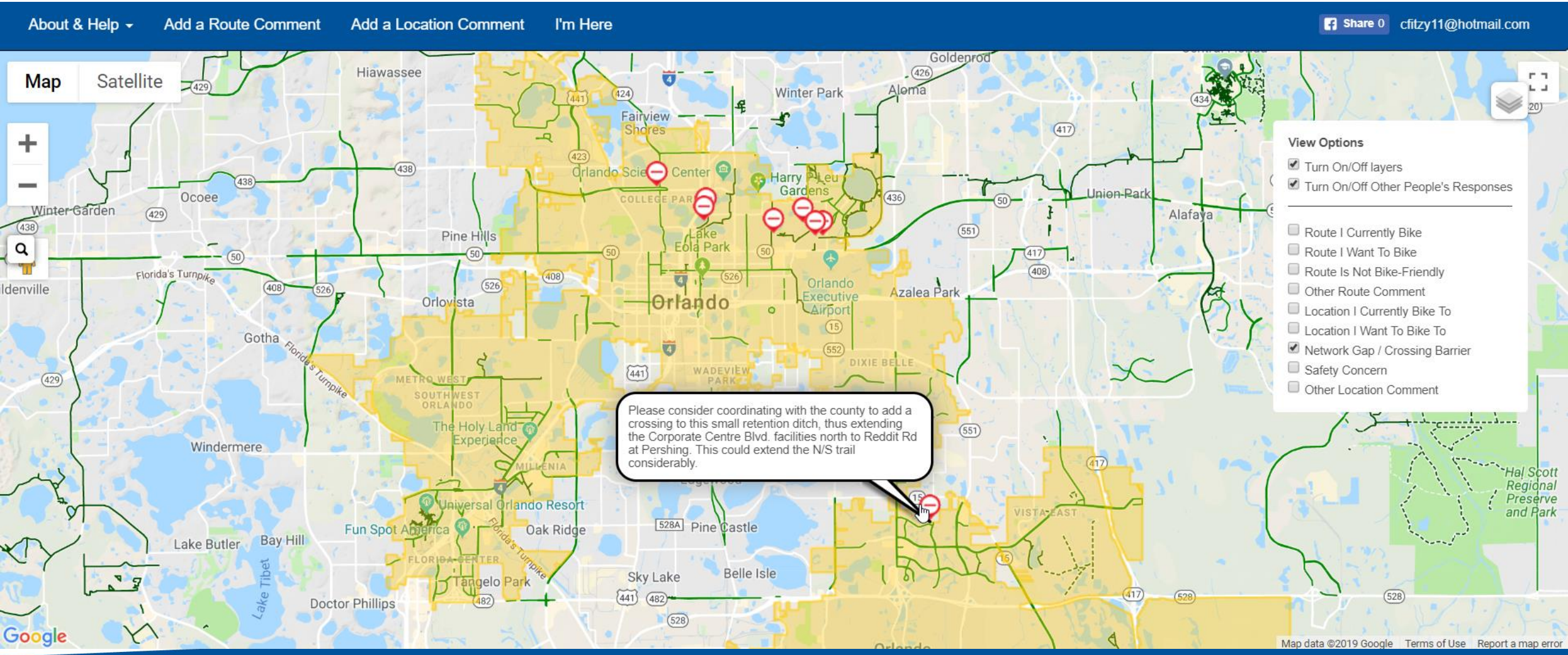

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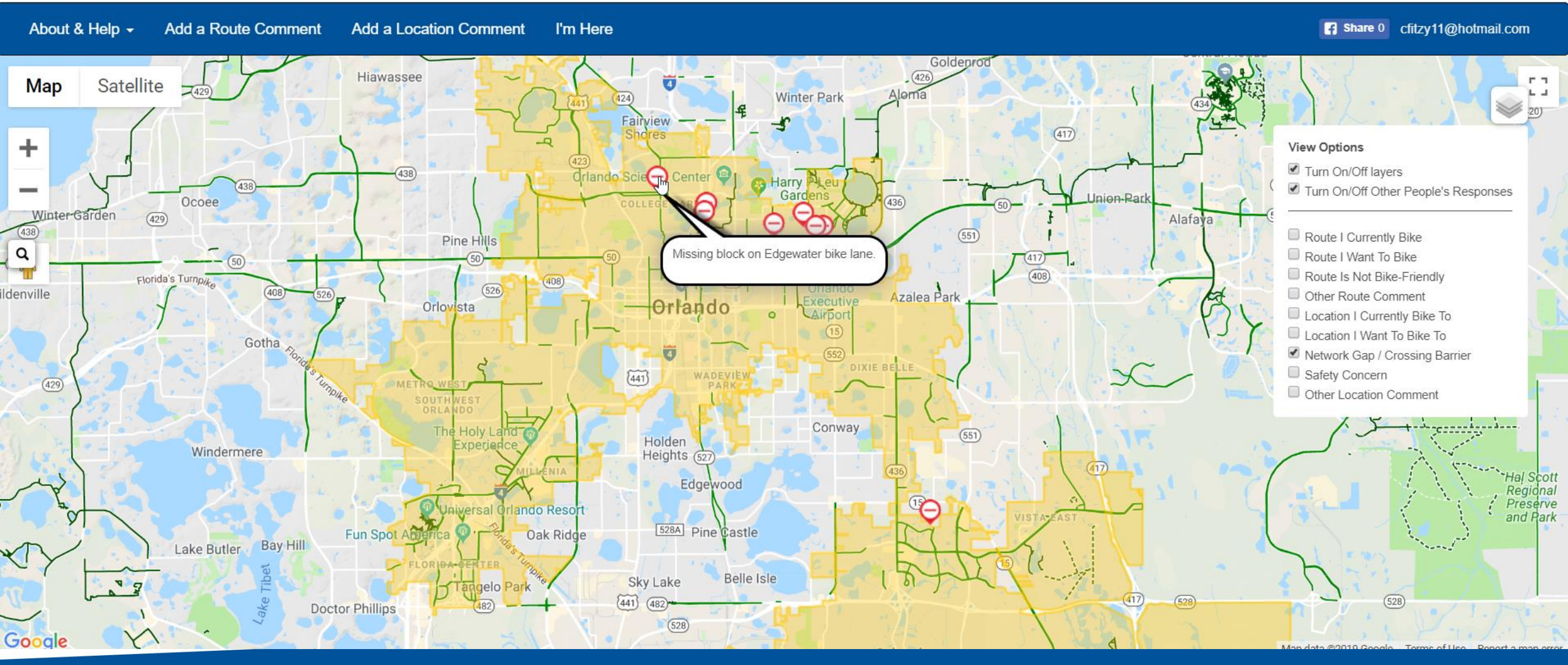

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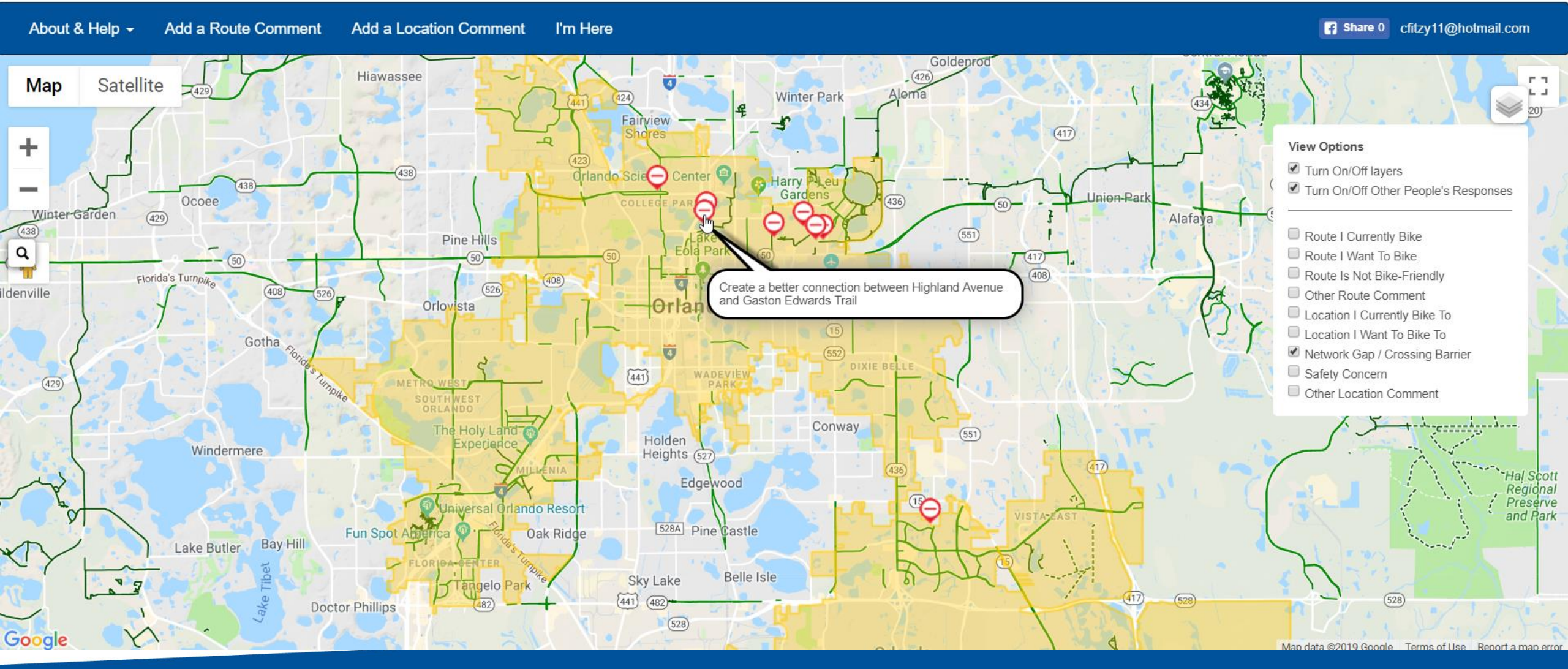

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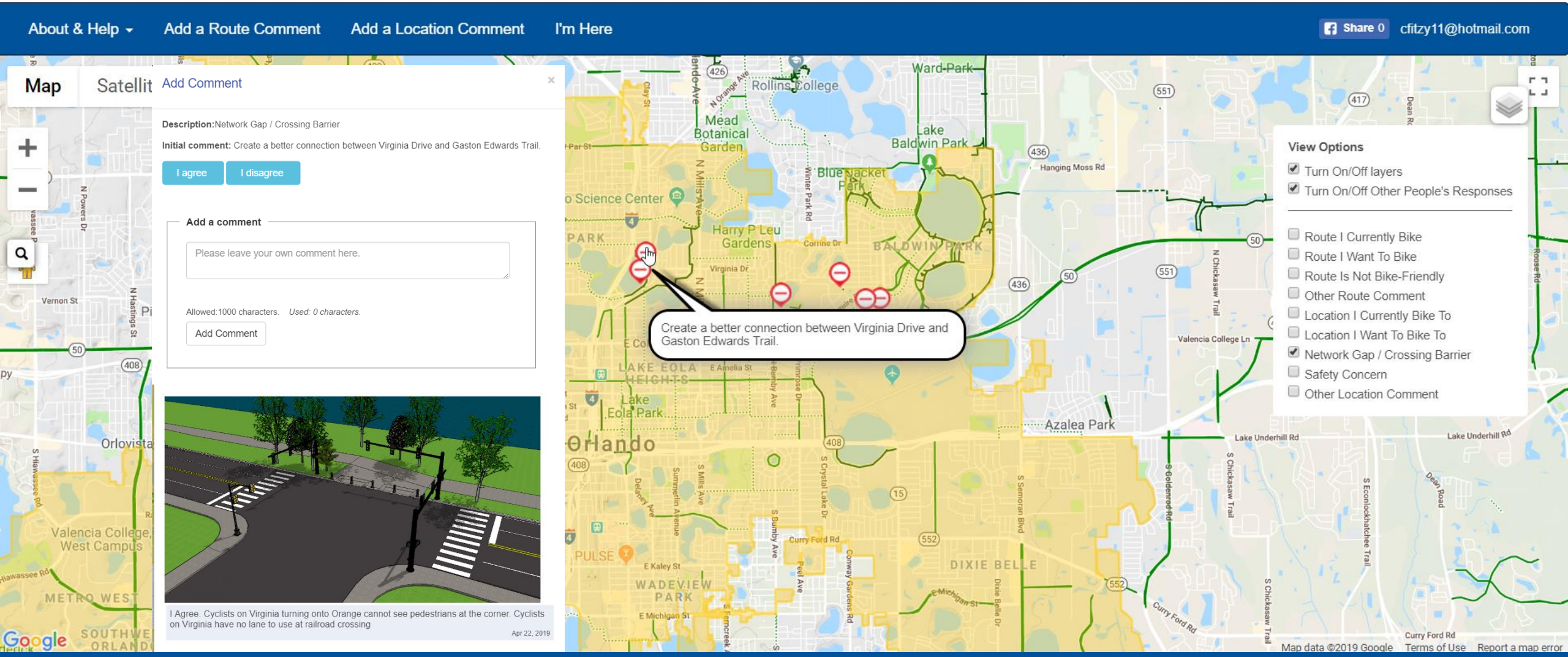

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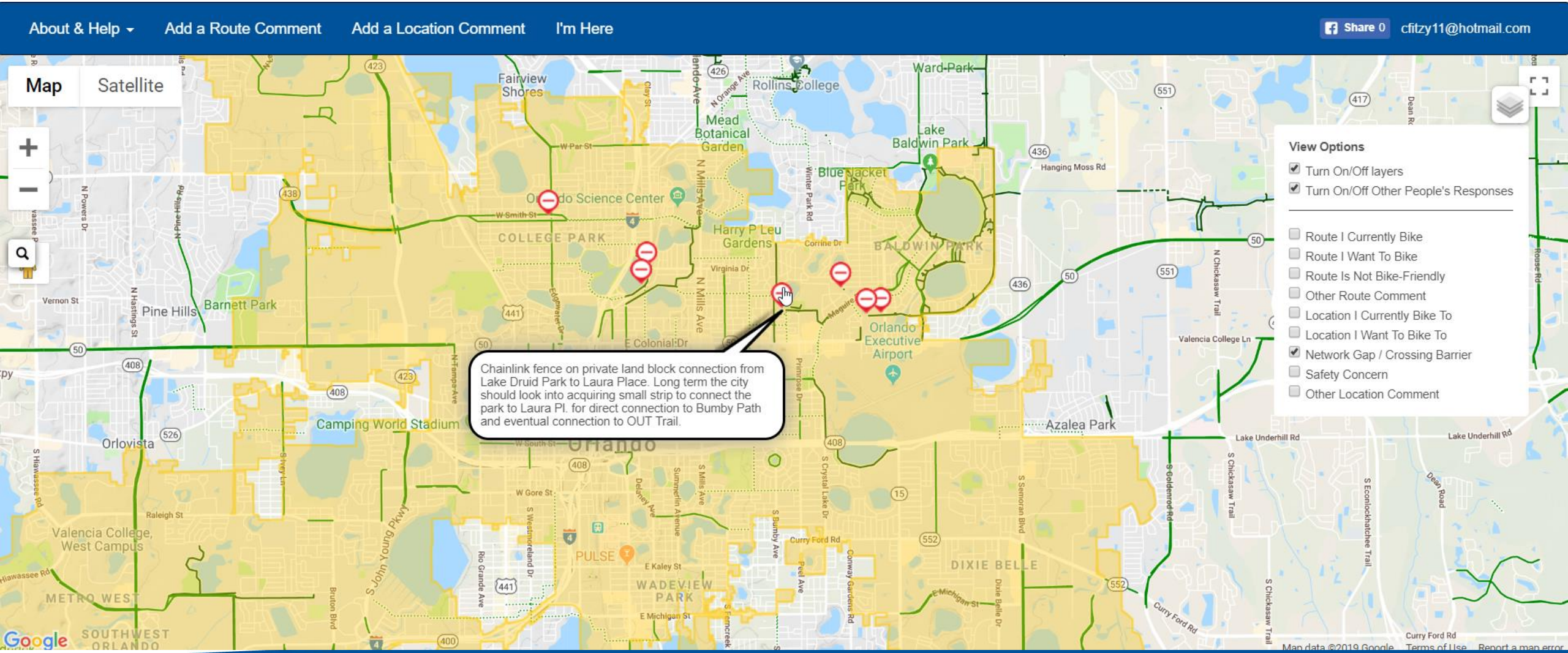

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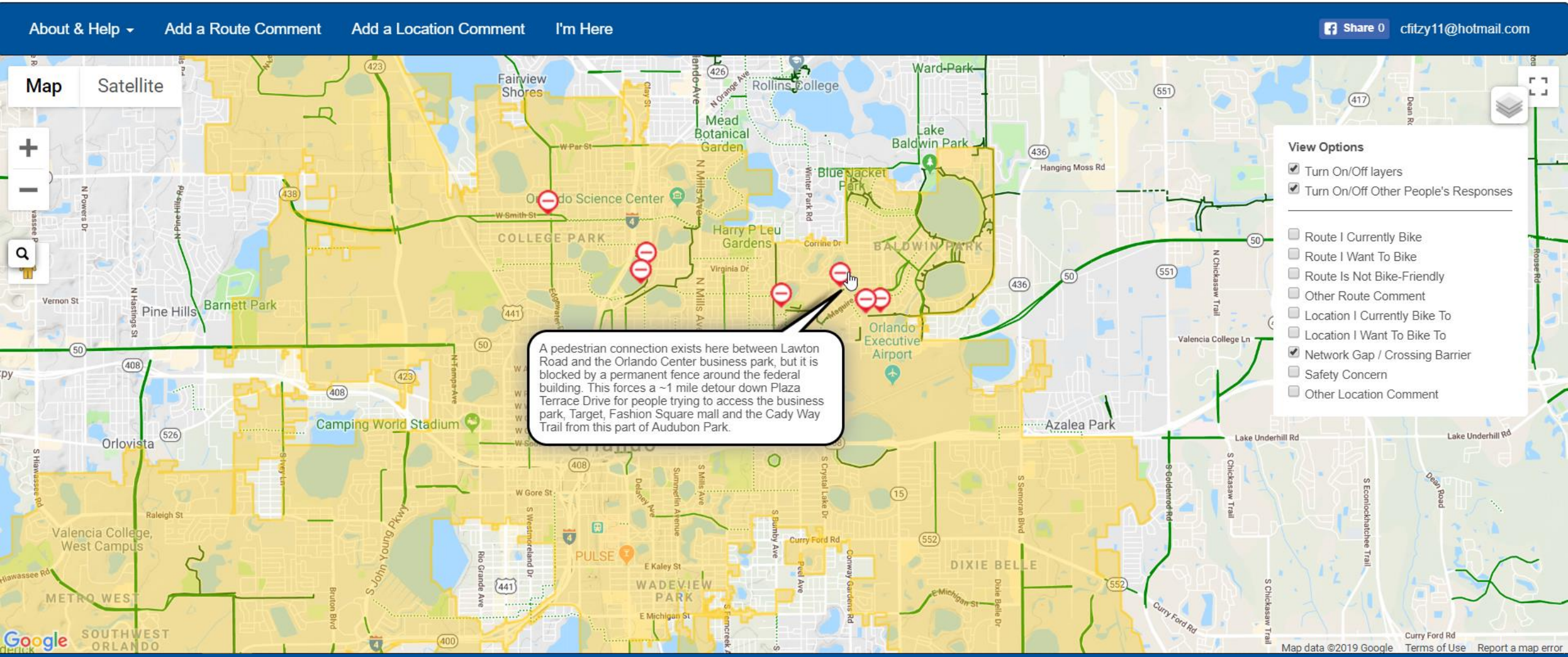

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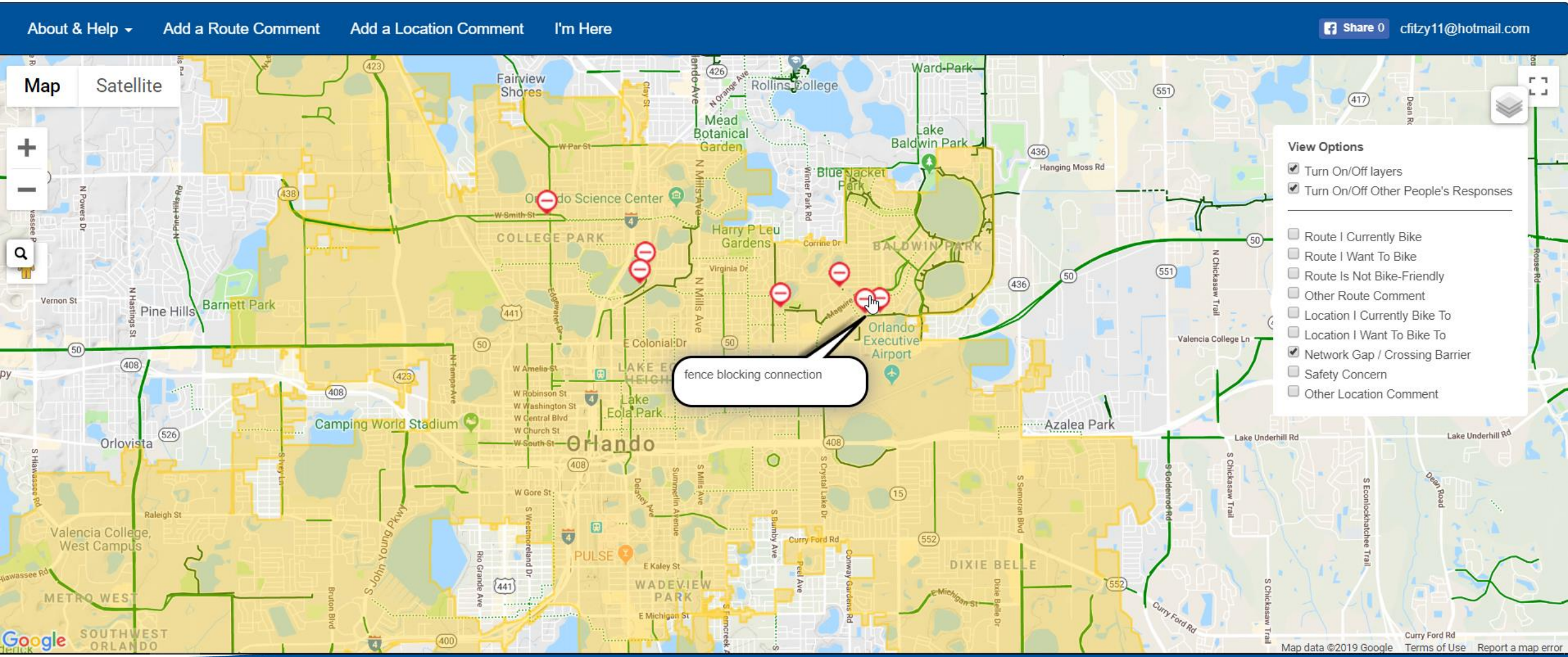

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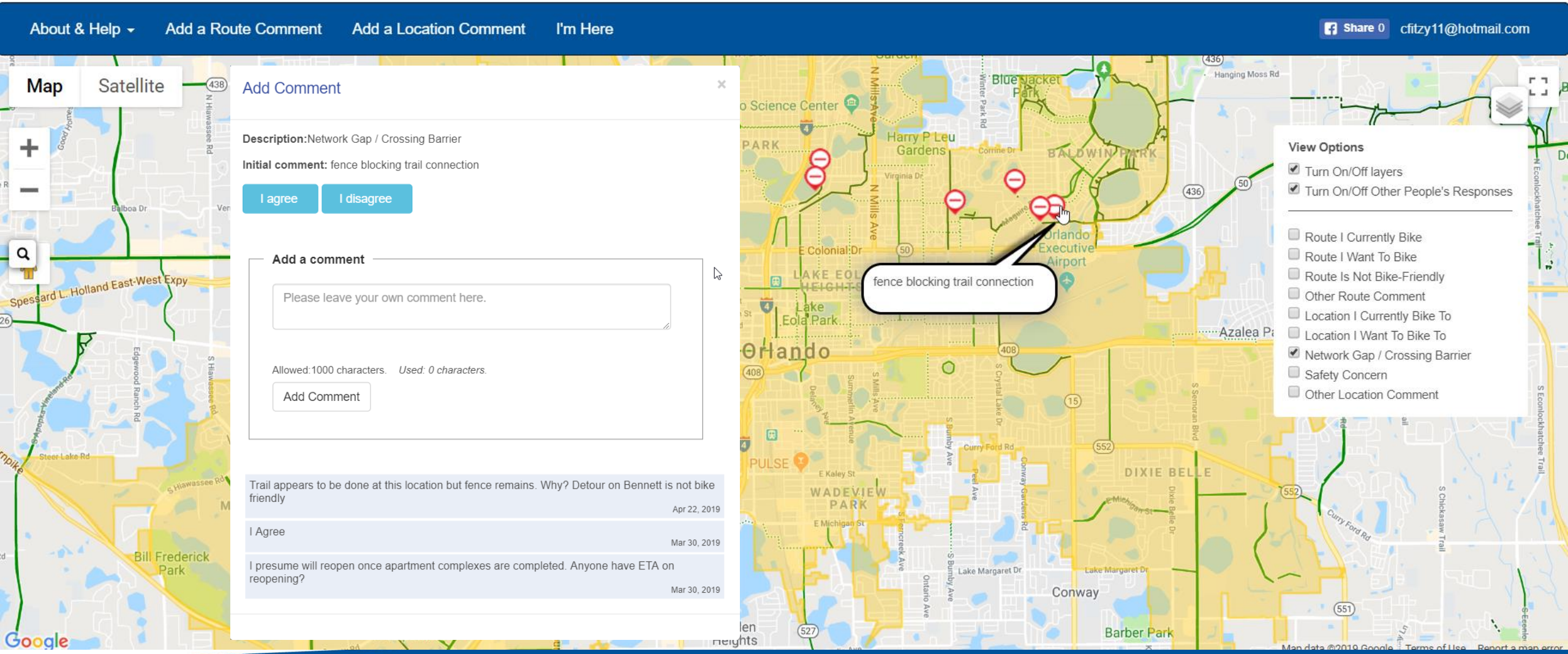

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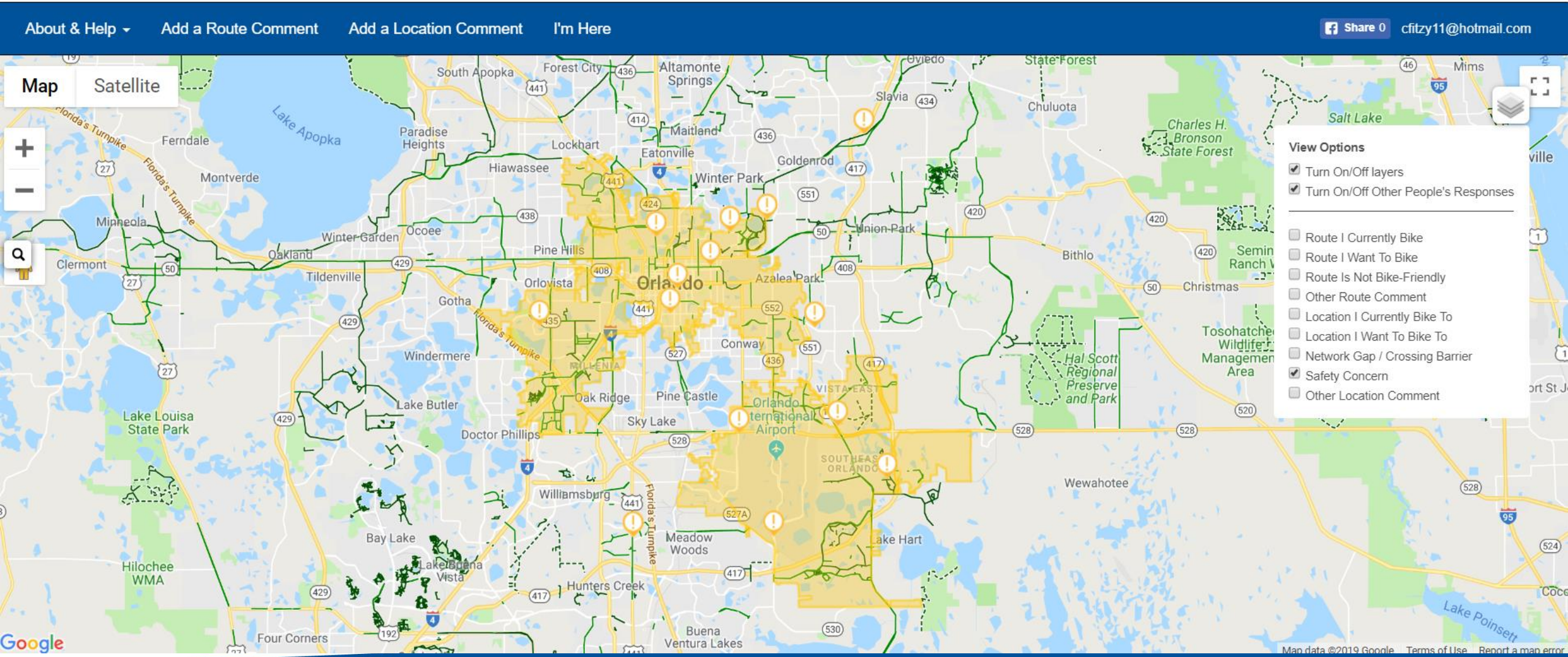

Safety Concern

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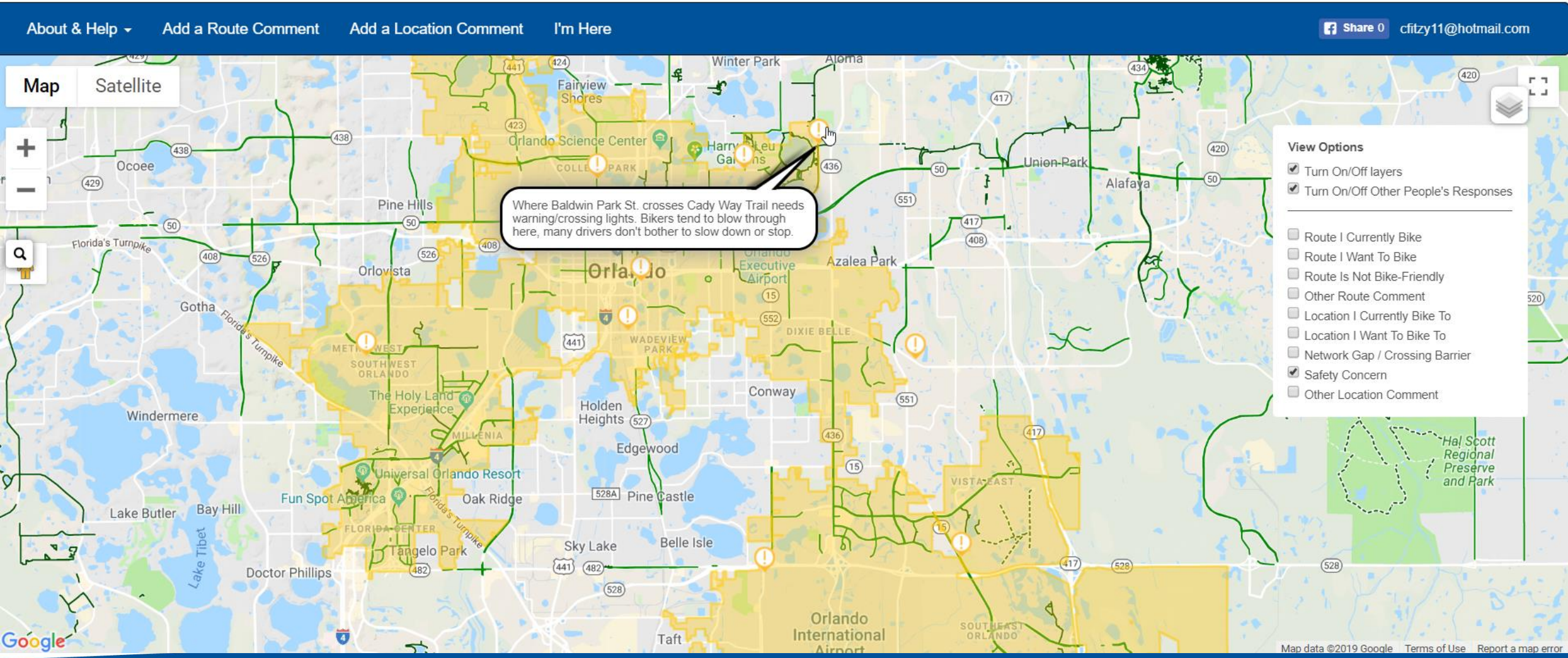

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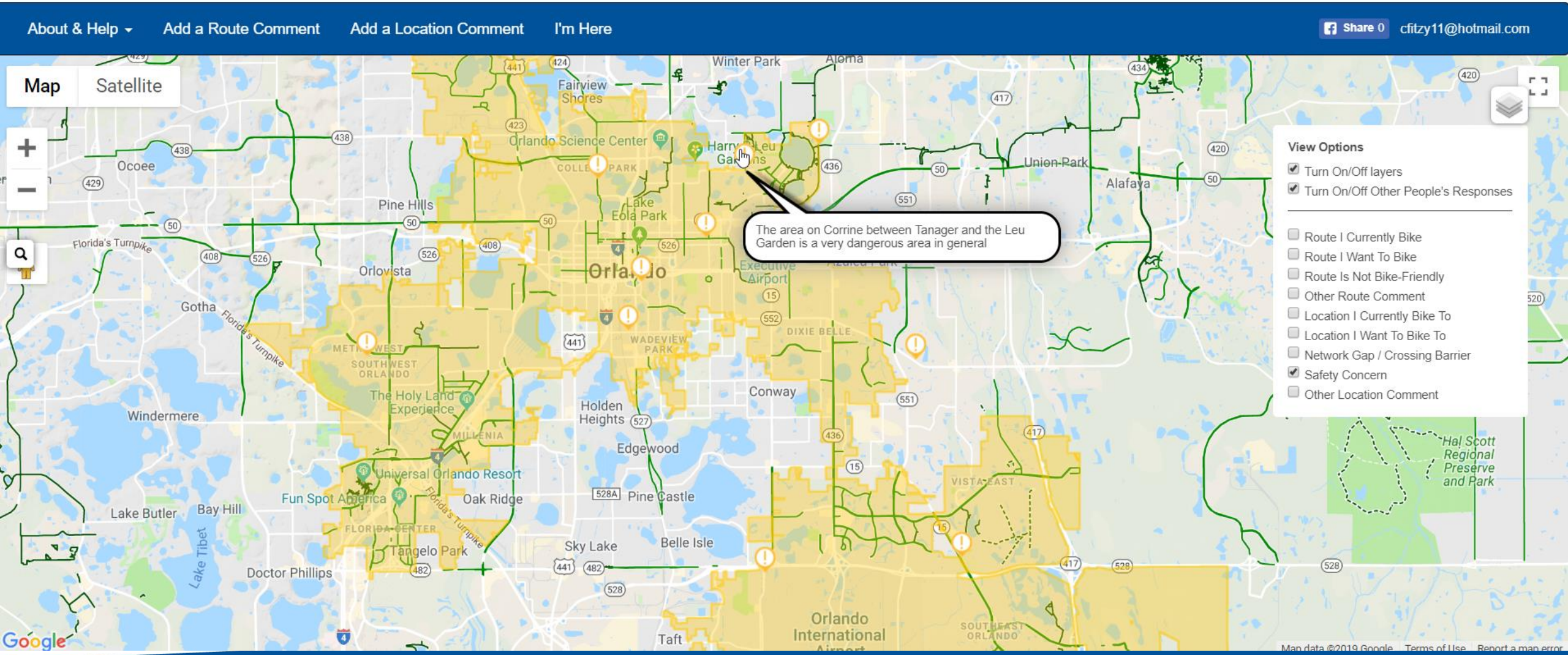

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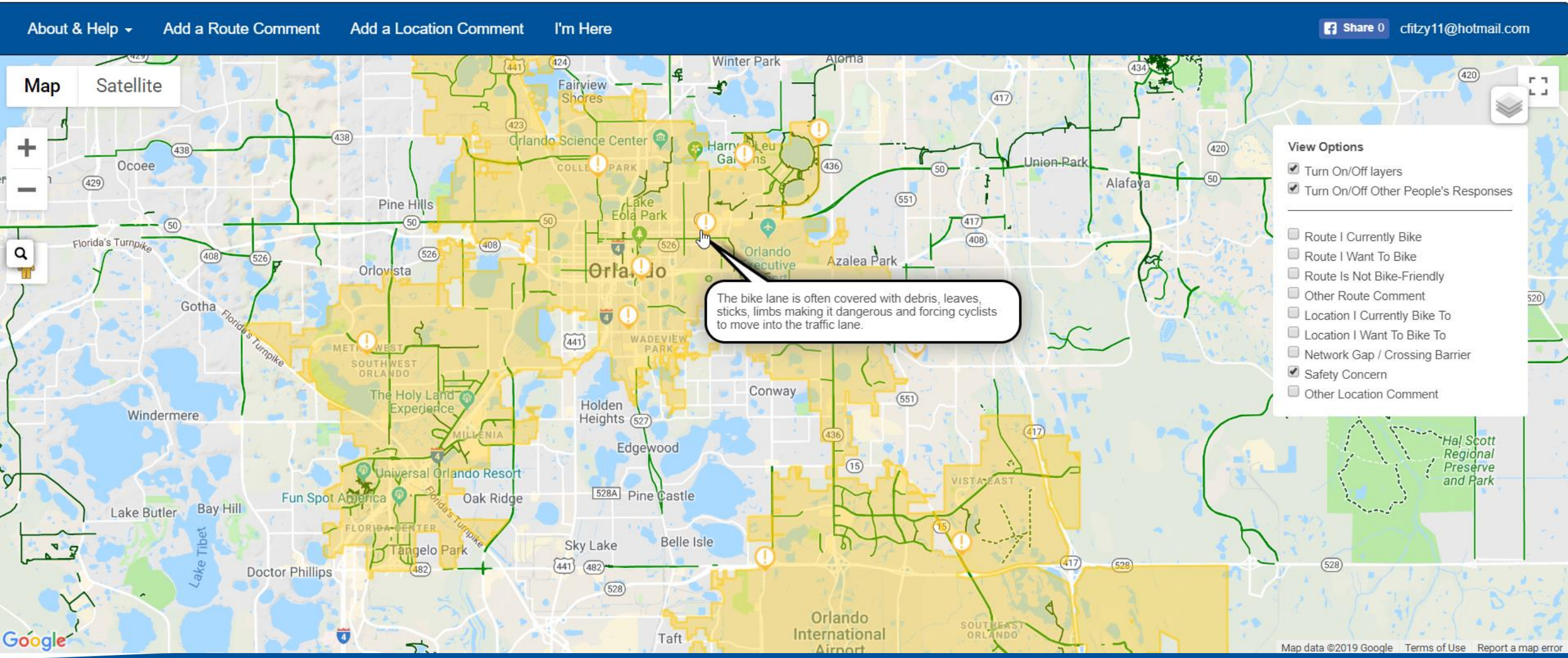

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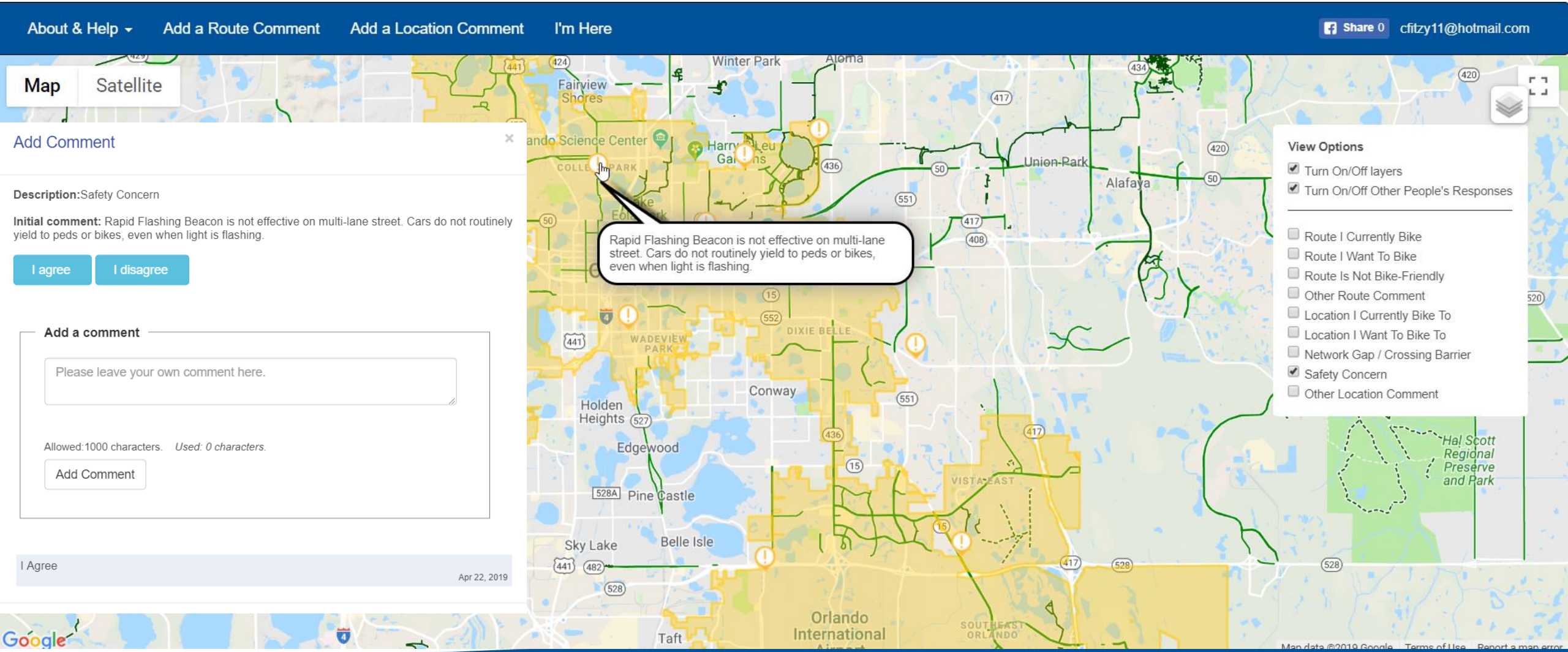

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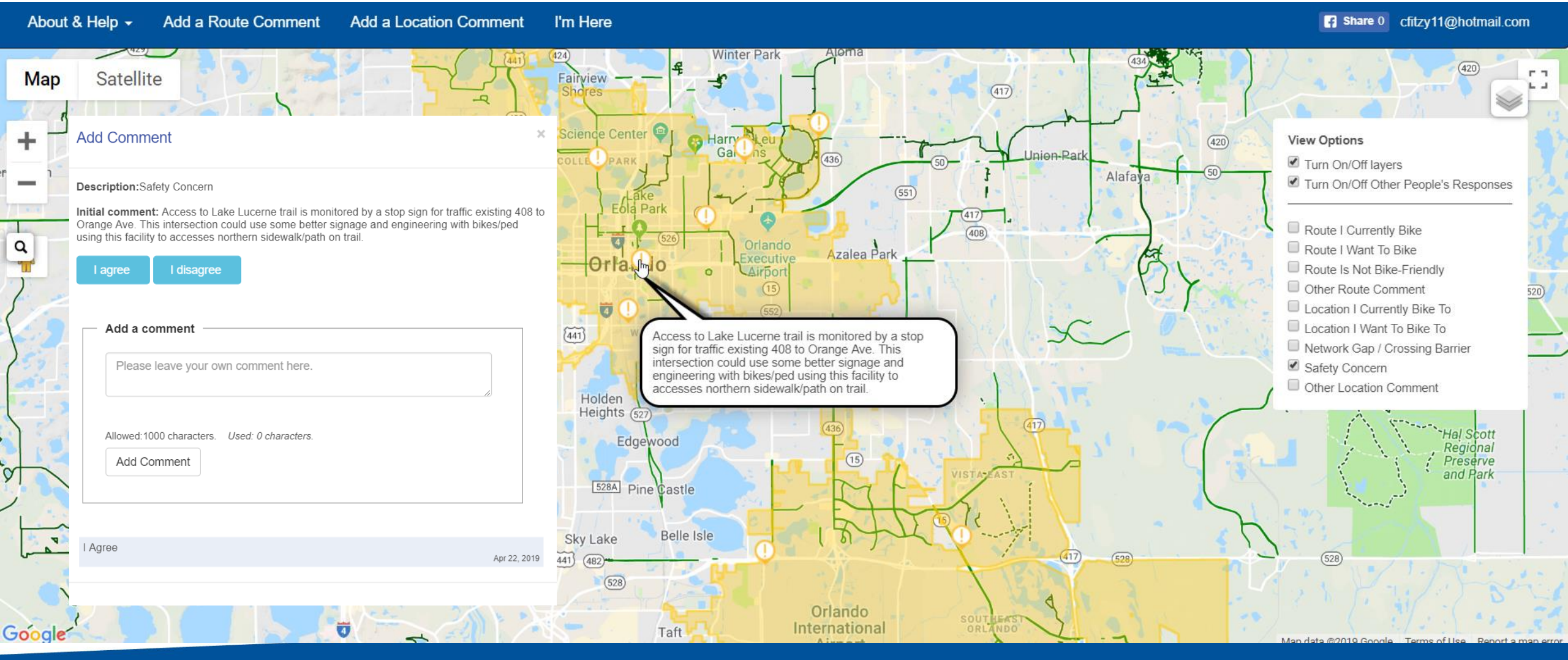

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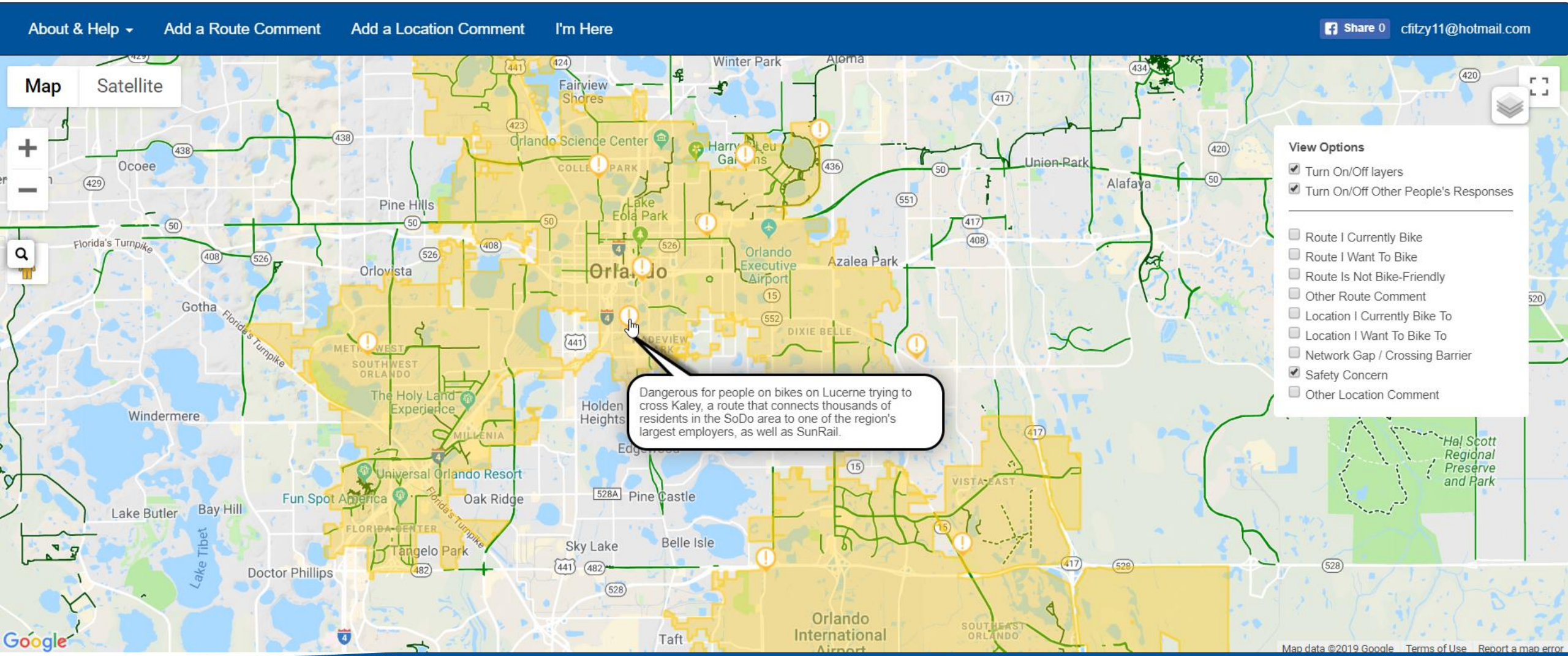

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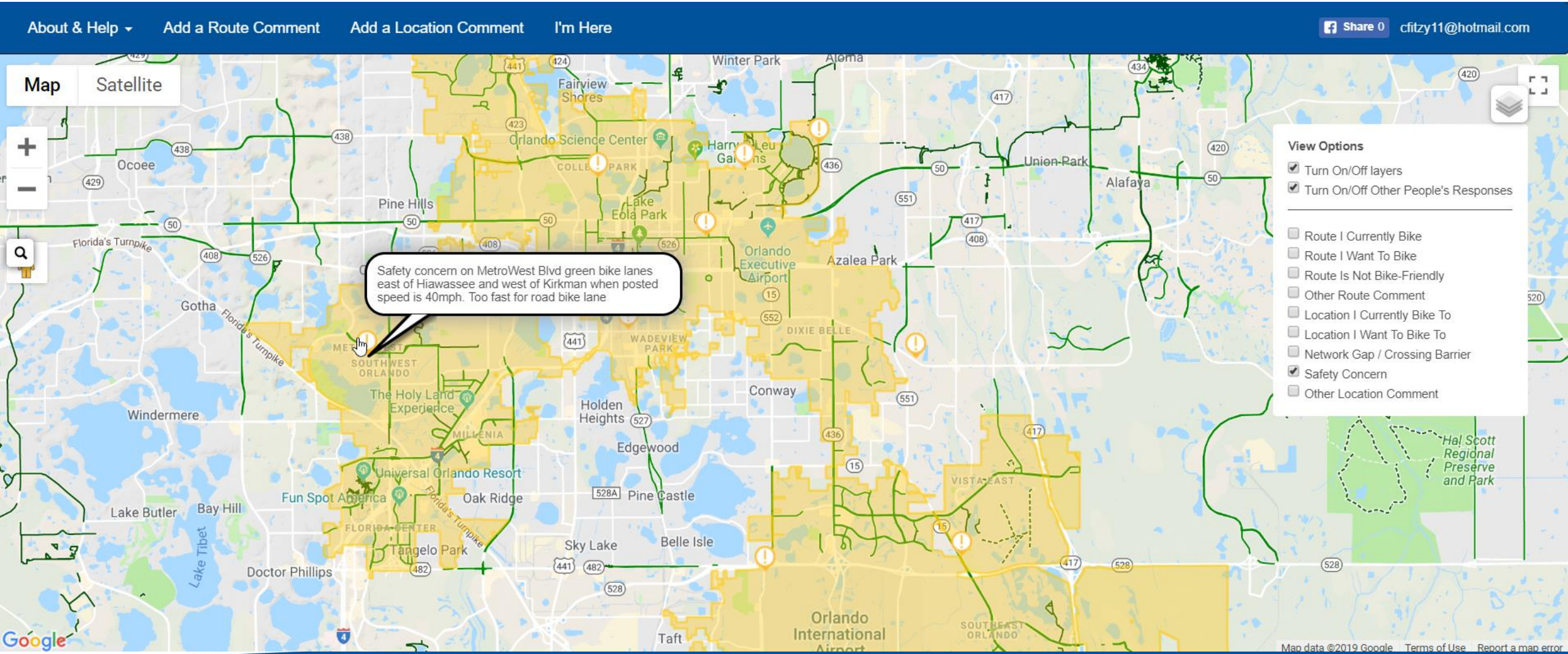

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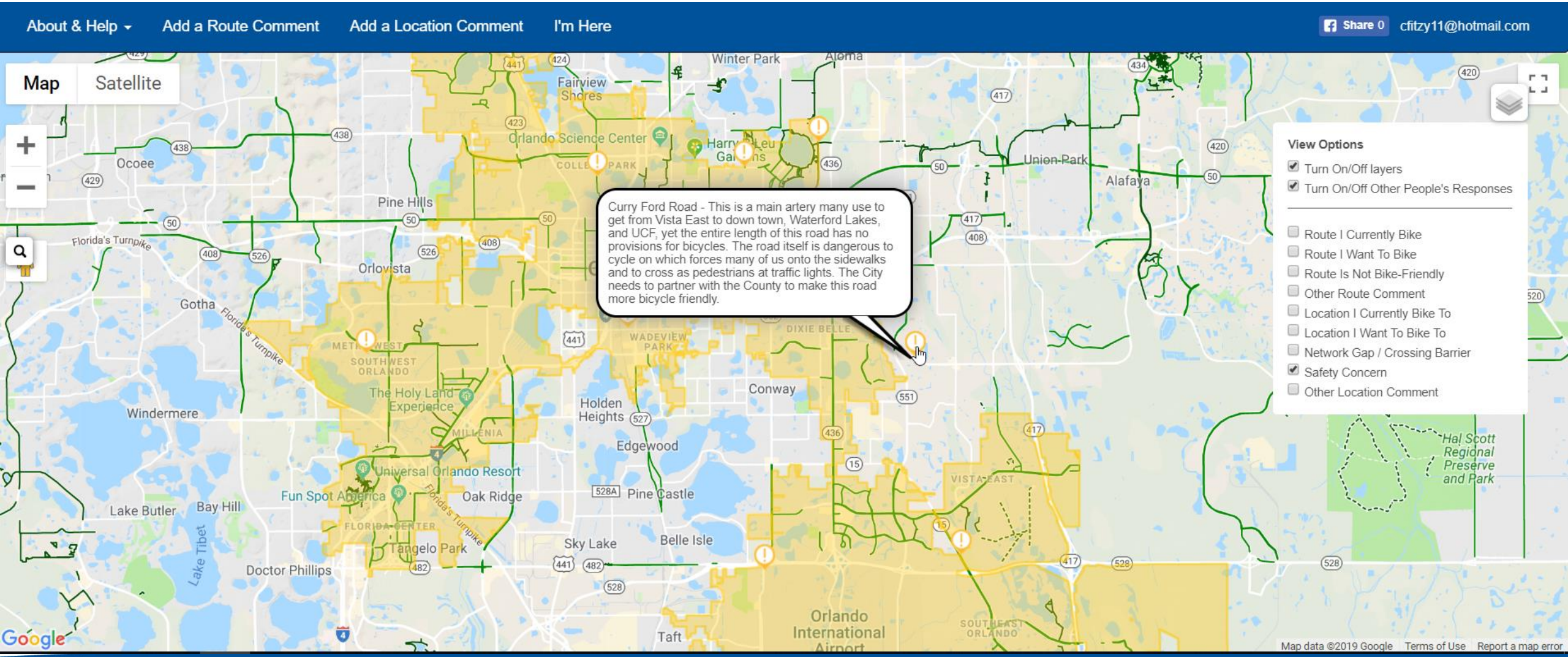

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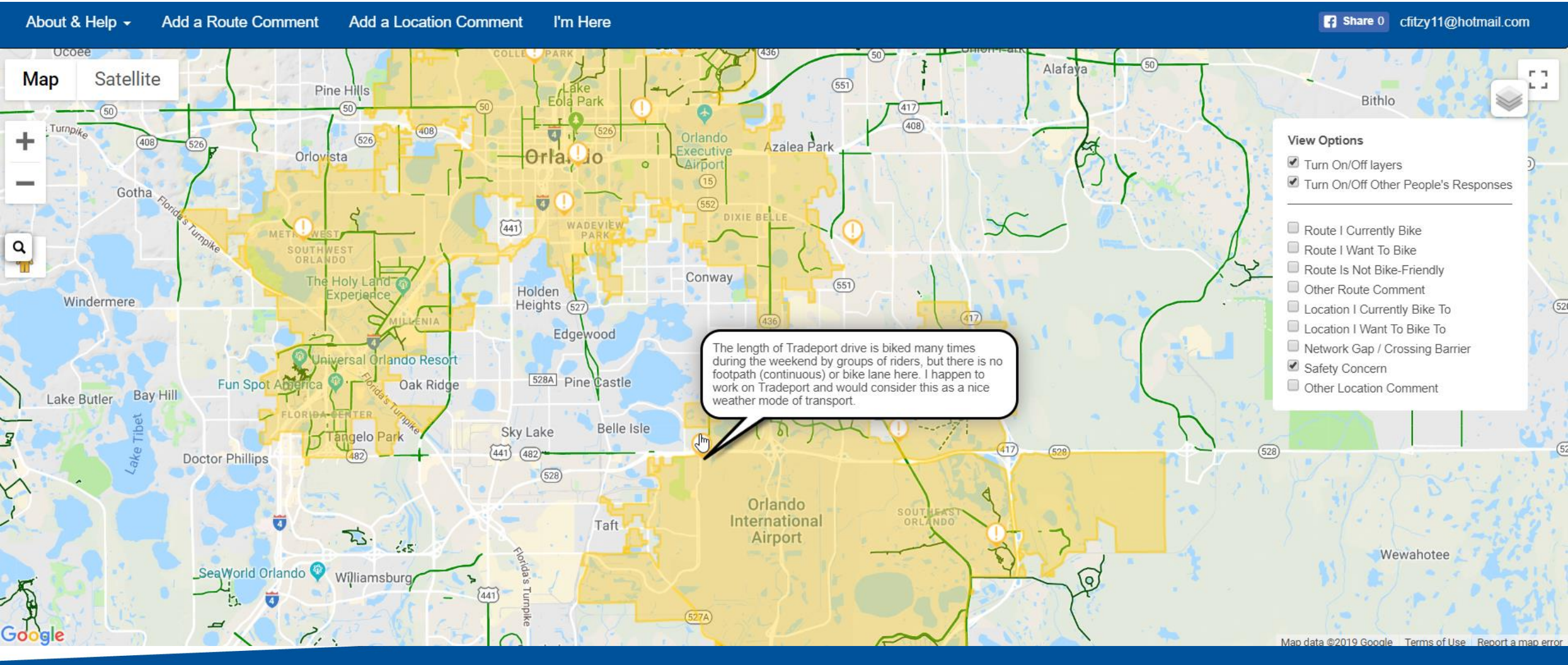

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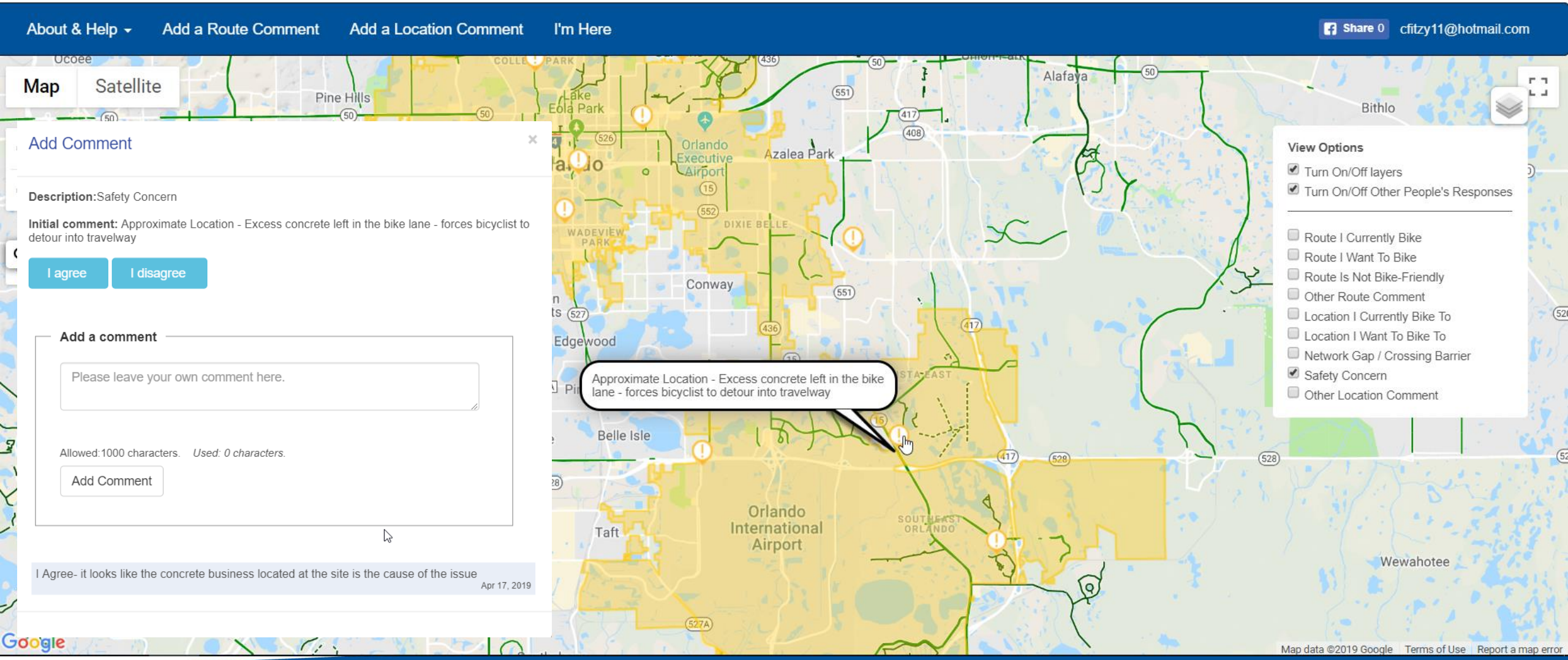

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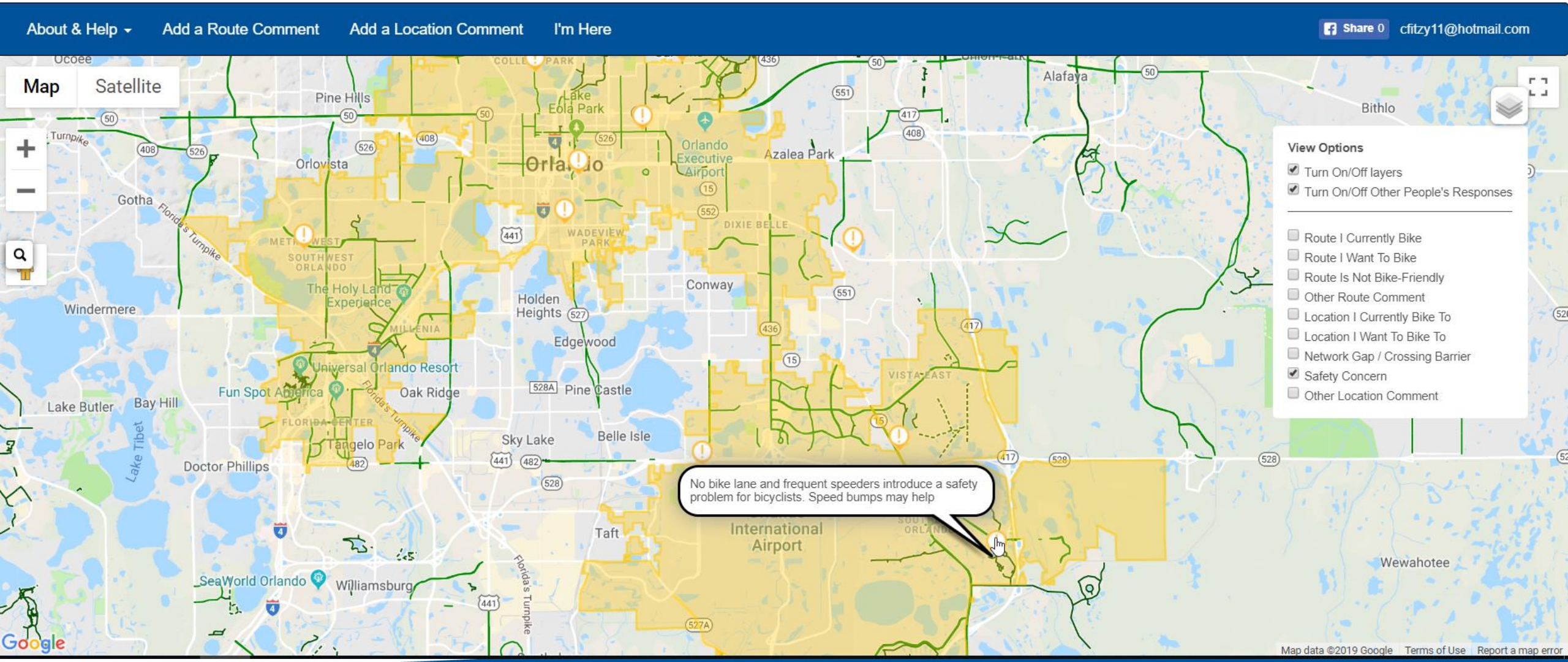

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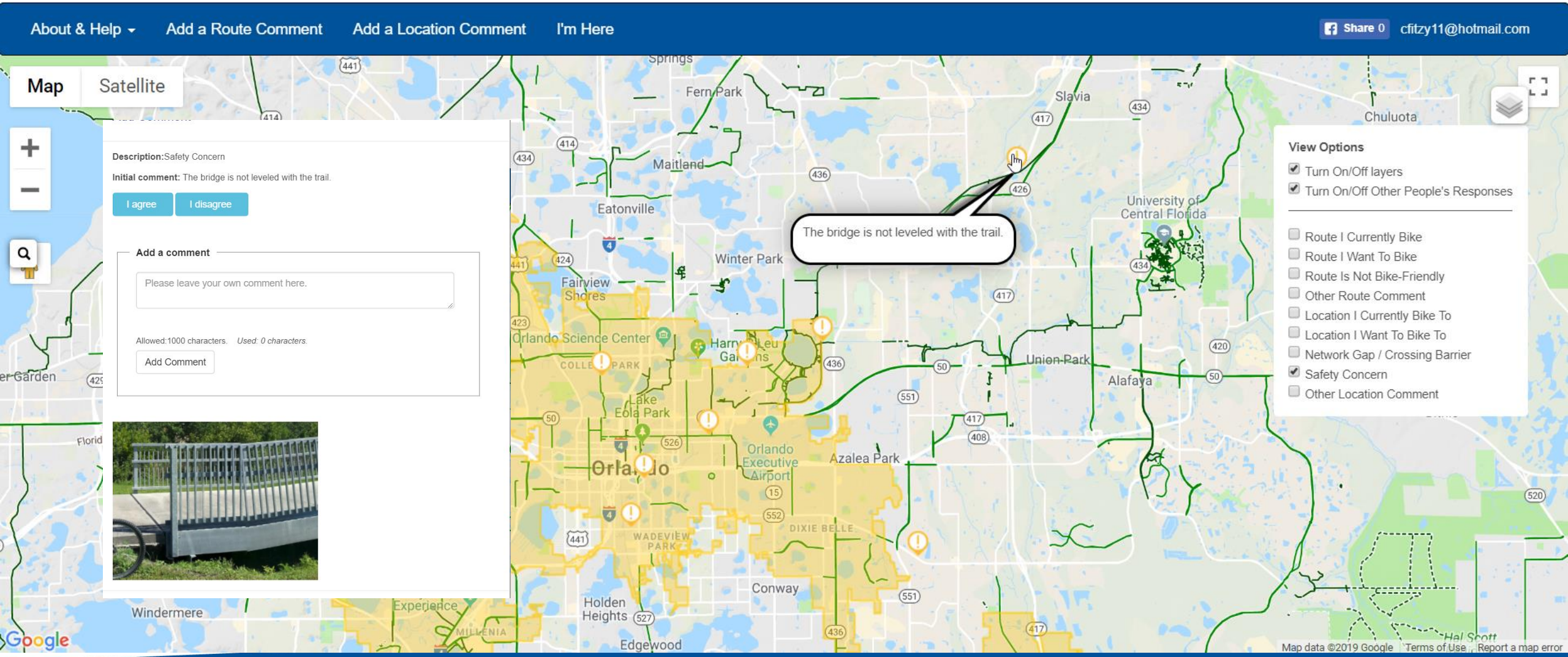

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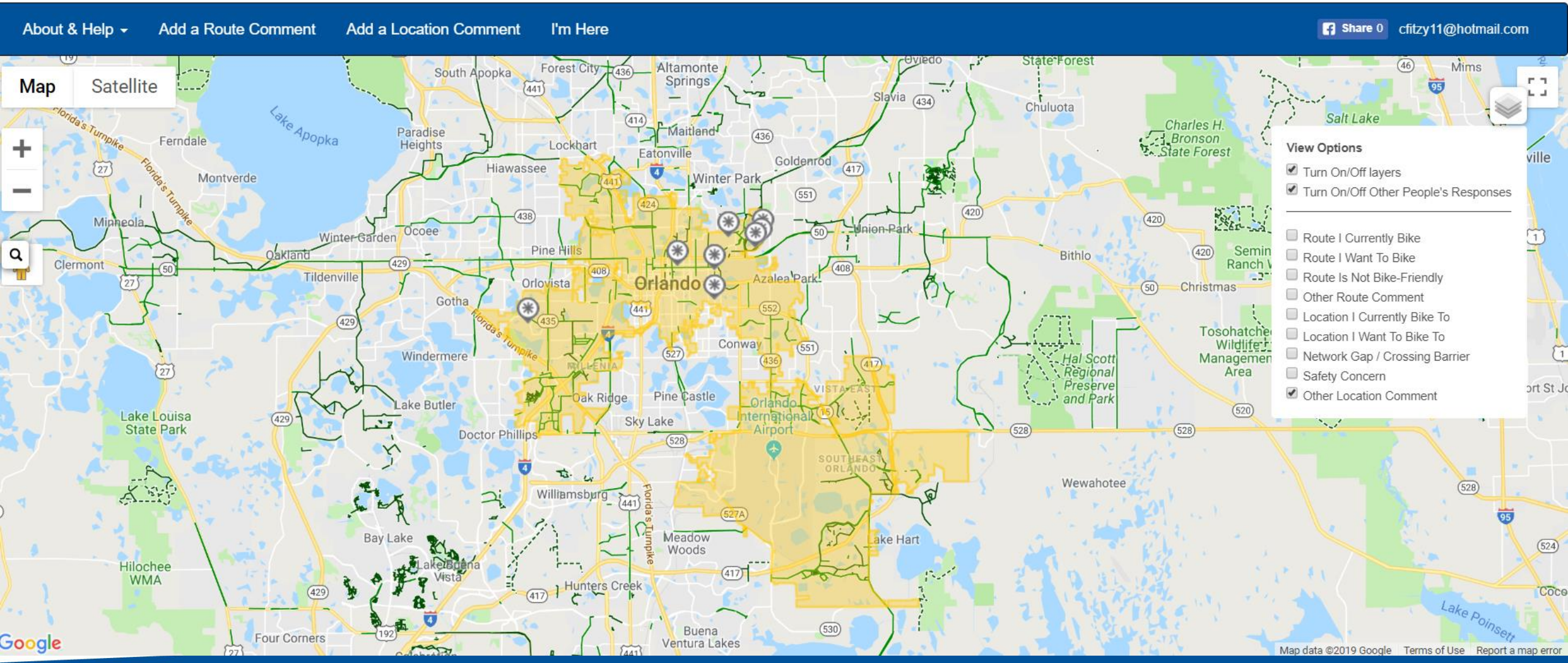

Other Location Comments

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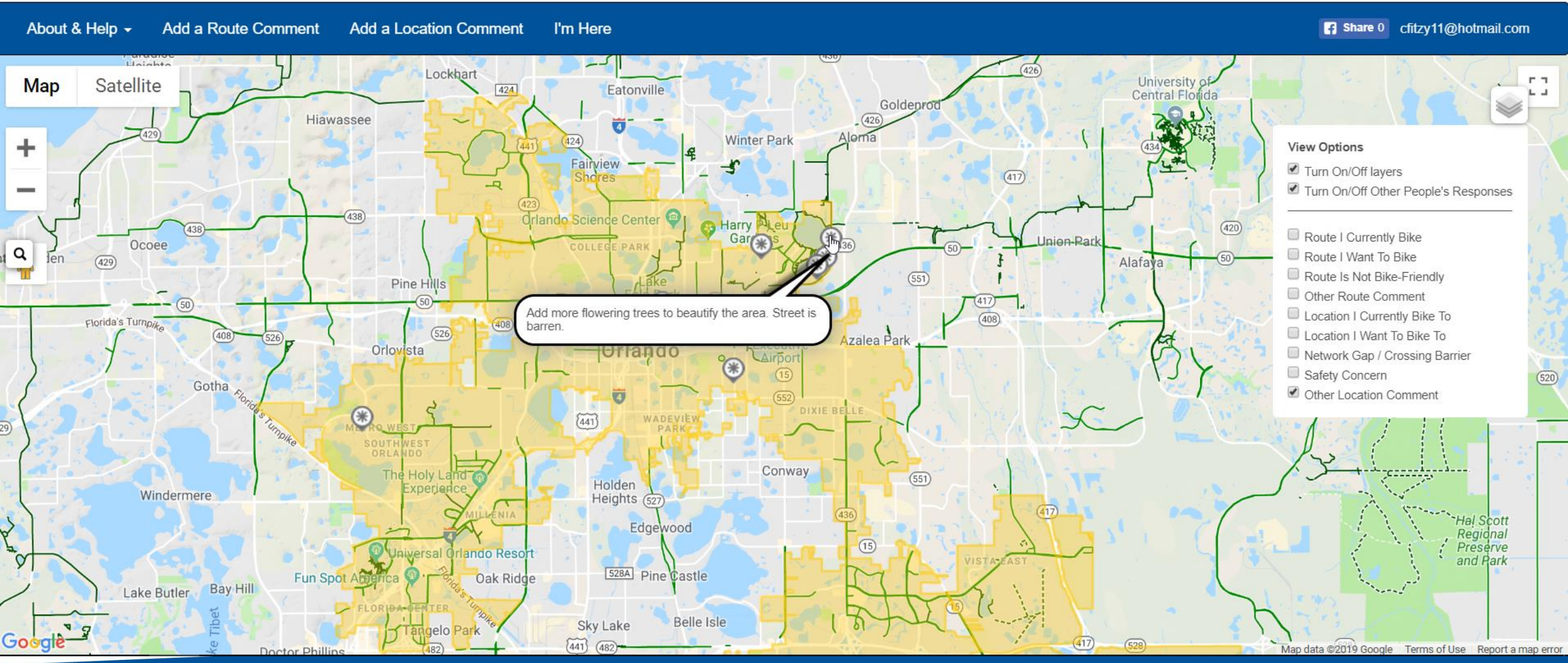

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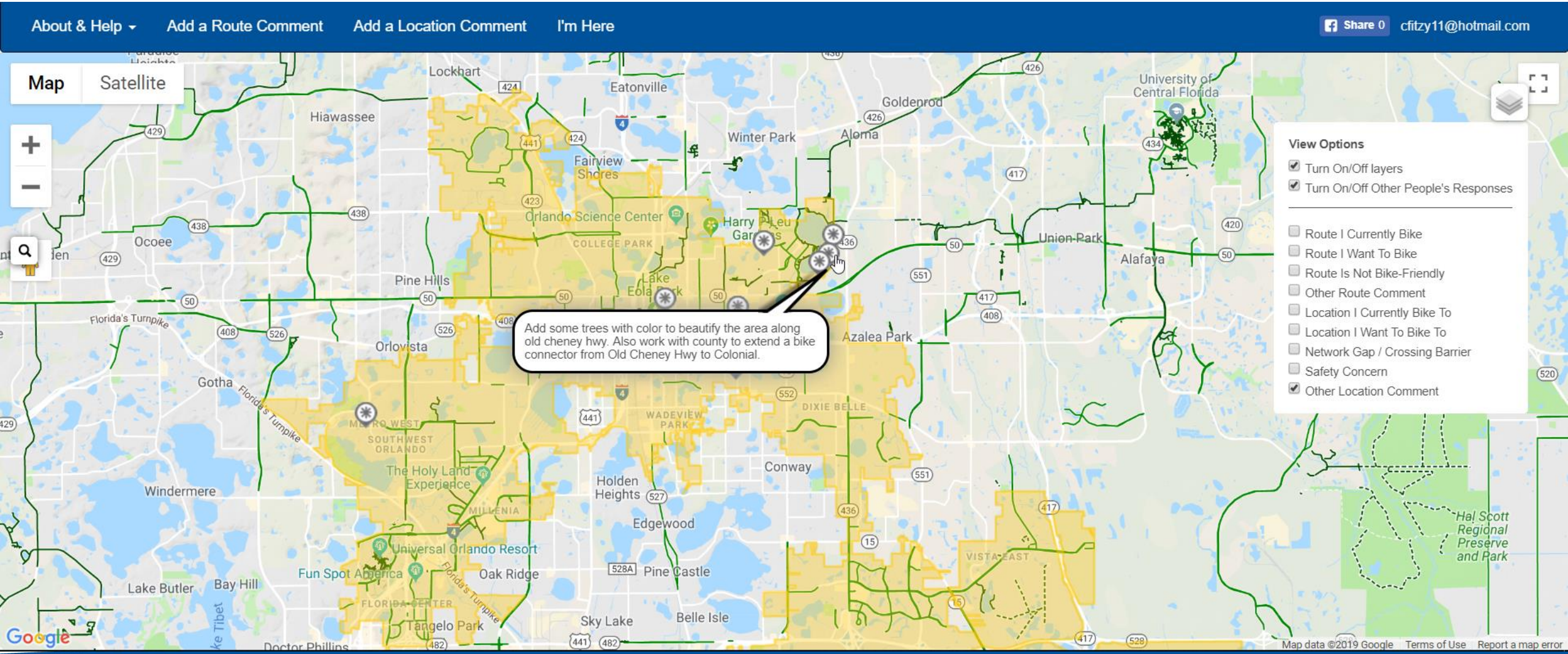

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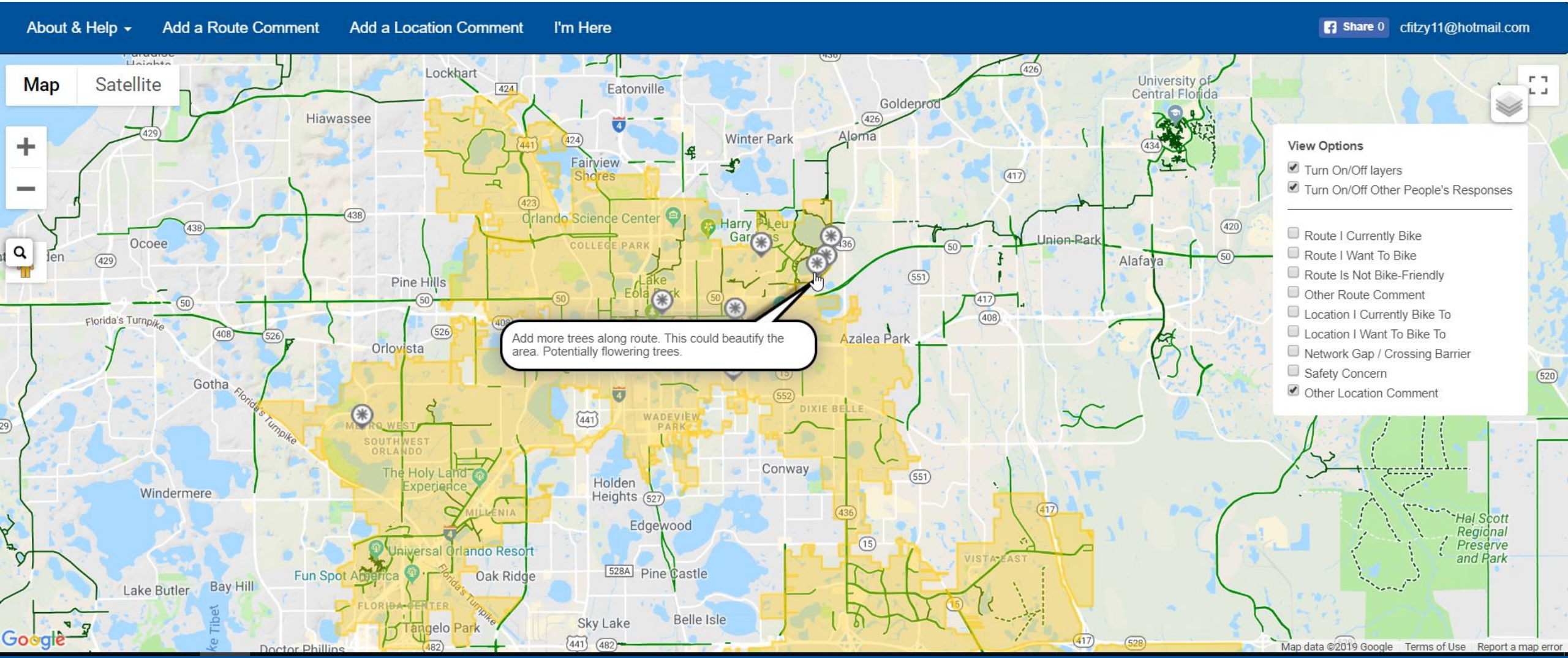

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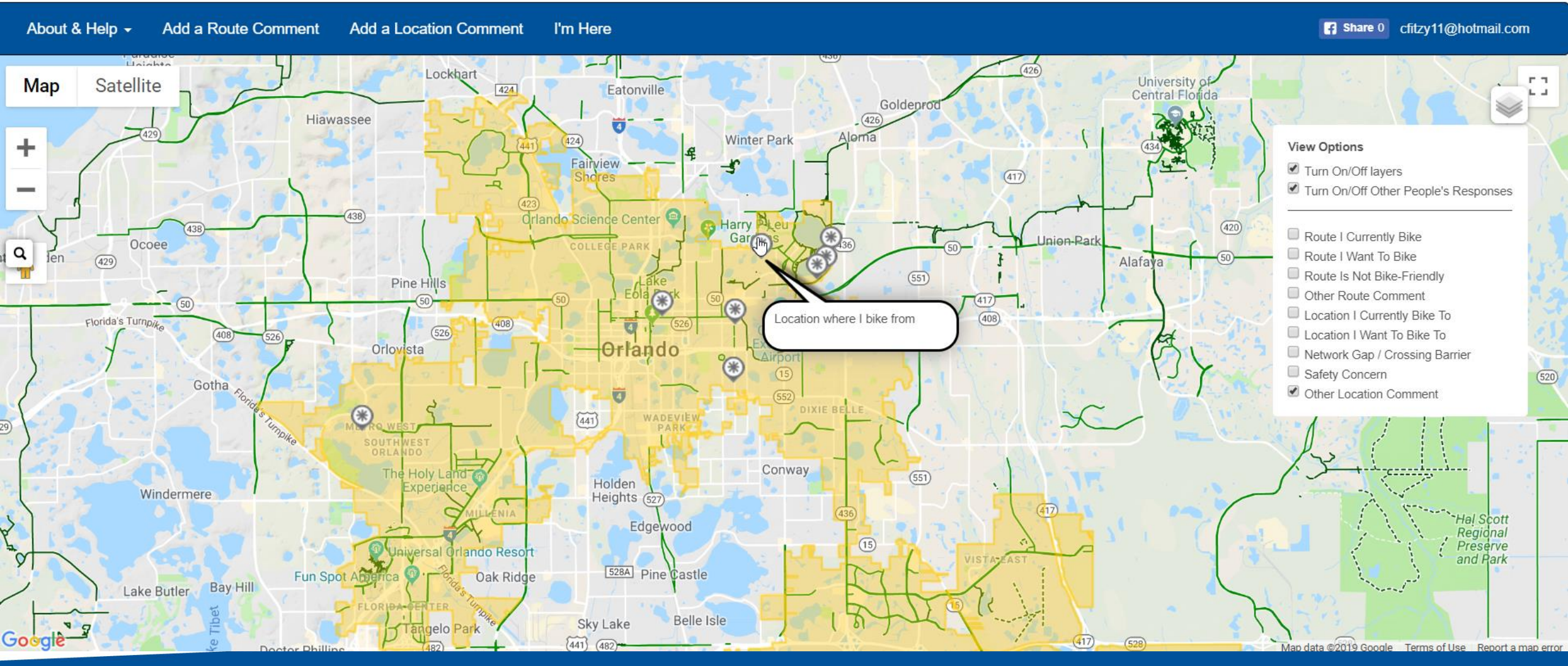

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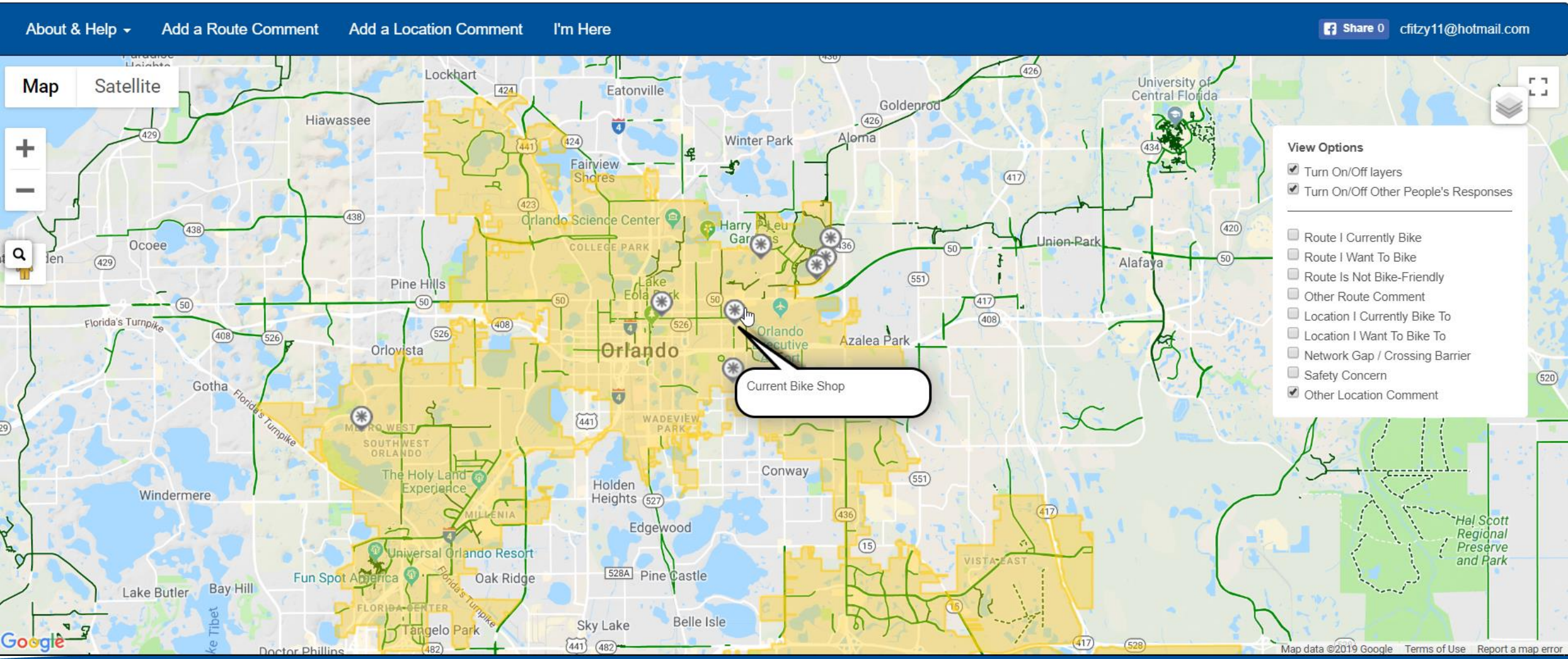

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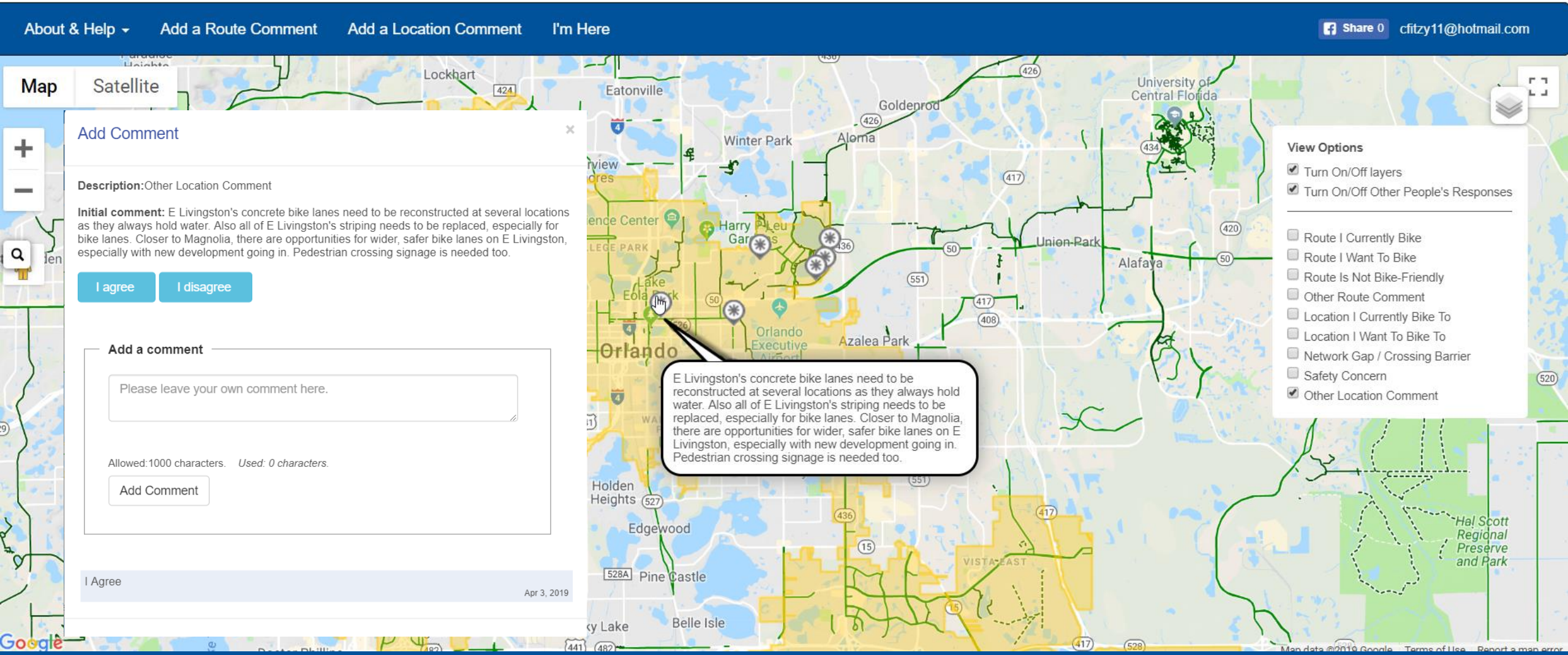

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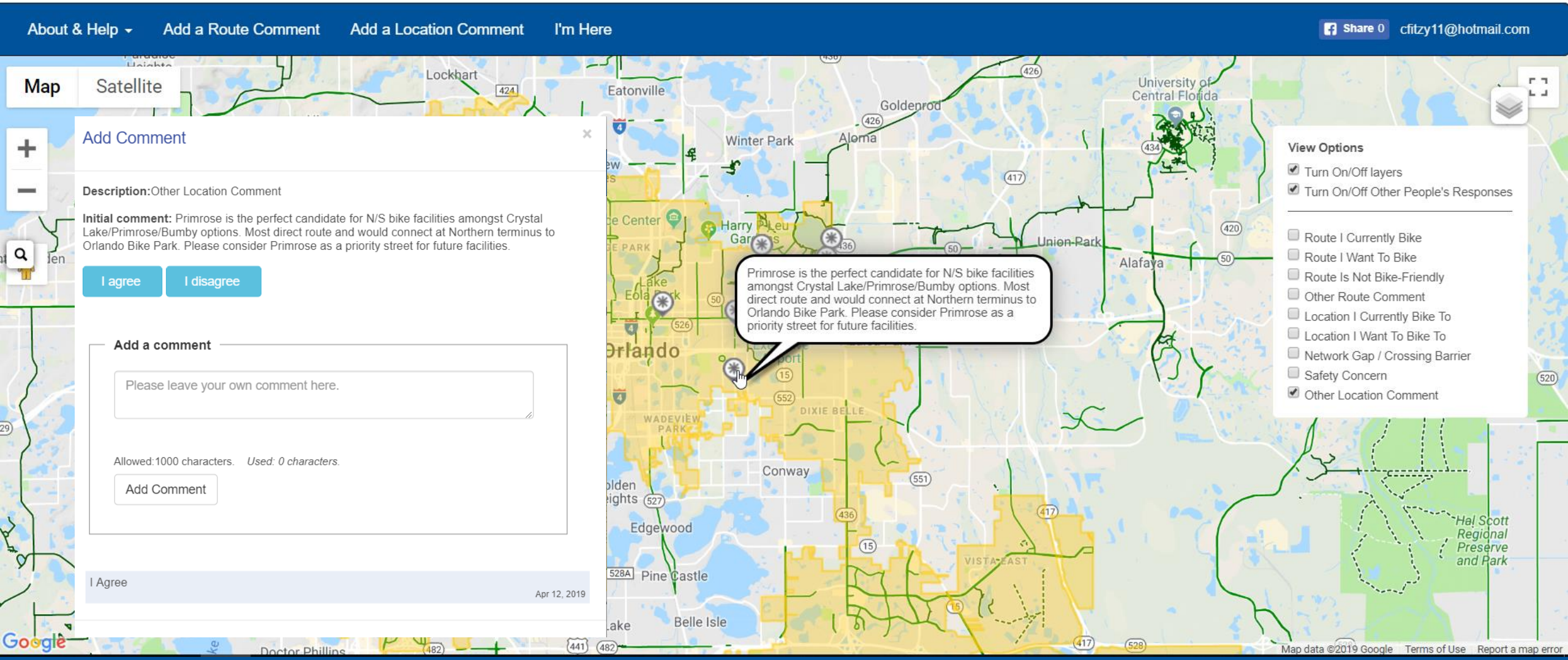

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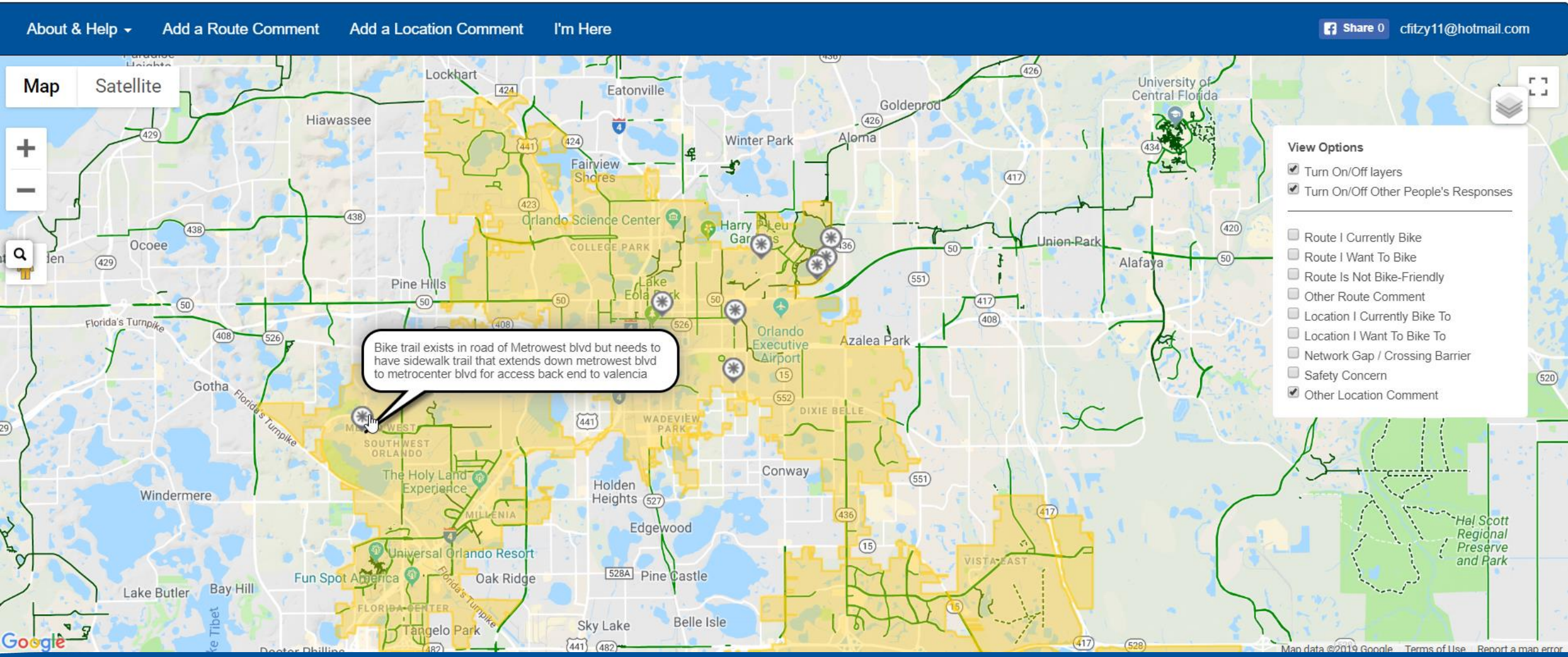

APPENDIX H

Orlando Bike Plan Update Master Mailing List

Salutation	Prefix	First Name	Last Name	Agency/Affiliation	Email Address	Assistant/ Aide Email Address	Address 1	Address 2	City	State	Zip Code	Phone
Ms.	Ms.	Virginia	Whittington	Director, Regional Partnerships, MetroPlan	vlwhittington@metroplanorlando.org		250 S Orange Avenue	Suite 200	Orlando	FL	32801	407-481-5672 x314
Mr.	Mr.	Gary	Huttmann	Executive Director, MetroPlan Orlando	ghuttmann@metroplanorlando.org		250 S Orange Avenue	Suite 200	Orlando	FL	32801	407-481-5672 x319
Mr.	Mr.	Hugh	Harling	Executive Director, East Central Florida Regional Planning Council	hharling@ecfrpc.org		455 N. Garland Avenue	Suite 414	Orlando	FL	32801	407-245-0303
Ms.	Ms.	Tara	McCue	Director of Planning & Community Development, East Central Florida Regional Planning Council	tara@ecfrpc.org		455 N. Garland Ave.		Orlando	FL	32801	407-245-3000
Mr.	Mr.	James	Harrison	Interim CEO, LYNX	inquiry@golynx.com		455 N. Garland Ave.		Orlando	FL	32801	407-841-5969
Mr.	Mr.	Myles	O'Keefe	Project Manager, LYNX			455 N. Garland Ave.		Orlando	FL	32801	407-254-6076
Ms.	Ms.	Nicola	Liquori	Executive Director, SunRail		deborah.morrow@dot.state.fl.us	801 SunRail Drive		Sanford	FL	32771	321-257-7170
Mr.	Mr.	Clint	Bullock	Orlando Utilities Commission		emason@ouc.com			Orlando	FL	32801	407-423-9100
Mr.	Mr.	Randy	Knight	City Manager, City of Winter Park	citymanager@cityofwinterpark.org		401 South Park Avenue		Winter Park	FL	32789	407-588-3235
Ms.	Ms.	Pamela	Nabors	President & CEO, CareerSource Central Florida	PNabors@careersourcecf.com		390 N. Orange Avenue	Suite 700	Orlando	FL	32801	407-531-1222
Ms.	Ms.	Keri	Caffrey	Founder, Commute Orlando	keribird@gmail.com							
Mr.	Mr.	John	Hearn	President & CEO, Coalition for the Homeless Central FL	john.hearn@cflhomeless.org		18 N. Terry Avenue		Oralndo	FL	32801	407-426-1250
Mr.	Mr.	Aaron	Powell	Founder, Orlando Bike Coalition	apowell14@valenciacollege.edu							
Mr.	Mr.	Seth	Funderburg	Organizer, B3 Café Group Rides	seth@blackmattertraining.com		2501 General Rees Ave.		Winter Park	FL	32789	813-841-6878
				Lakemont Elementary Group Rides			901 Lakemont Ave.		Winter Park	fl	32789	(407) 623-1453
Mr.	Mr.	Vince	Cook	President, Florida Bicycle Racing Association	vcook302@gmail.com.							

Orlando Bike Plan Update Master Mailing List

Salutation	Prefix	First Name	Last Name	Agency/Affiliation	District	Email Address	Assistant/ Aide Email Address	Address 1	Address 2	City	State	Zip Code	Phone
CITY OF ORLANDO													
The Honorable	Mayor	Buddy	Dyer	City of Orlando		buddy.dyer@cityoforlando.net		P.O. Box 4990		Orlando	FL	32802	407-246-2221
The Honorable	Commissioner	Jim	Gray	City of Orlando	District 1	jim.gray@cityoforlando.net		P.O. Box 4990		Orlando	FL	32802	407-246-2001
The Honorable	Commissioner	Tony	Ortiz	City of Orlando	District 2	tony.ortiz@cityoforlando.net		P.O. Box 4990		Orlando	FL	32802	407-246-2002
The Honorable	Commissioner	Robert	Stuart	City of Orlando	District 3	robert.stuart@cityoforlando.net		P.O. Box 4990		Orlando	FL	32802	407-246-2003
The Honorable	Commissioner	Patty	Sheehan	City of Orlando	District 4	patty.sheehan@cityoforlando.net		P.O. Box 4990		Orlando	FL	32802	407-246-2004
The Honorable	Commissioner	Regina	Hill	City of Orlando	District 5	regina.hill@cityoforlando.net		P.O. Box 4990		Orlando	FL	32802	407-246-2005
The Honorable	Commissioner	Samuel	Ings	City of Orlando	District 6	samuel.ings@cityoforlando.net		P.O. Box 4990		Orlando	FL	32802	407-246-2006

Orlando Bike Plan Update Master Mailing List

Salutation	Prefix	First Name	Last Name	Agency/Affiliation	District	Email Address	Assistant/ Aide Email Address	Address 1	Address 2	City	State	Zip Code	Phone
CITY OF ORLANDO													
Mr.	Mr.	Kevin	Edmonds	Acting Chief Administrative Officer Interim Fire Chief		kevin.edmonds@cityoforlando.net		P.O. Box 4990		Orlando	FL	32802	407-246-3091
Ms.	Ms.	Brooke	Rimmer Bonnett	Economic Development Director		brooke.bonnett@cityoforlando.net		P.O. Box 4990		Orlando	FL	32802	407-246-2719
Mr.	Mr.	Thomas	Chatmon Jr.	Executive Director, Downtown Development Board		Thomas.Chatmon@downtownorlando.com		400 South Orange Avenue		Orlando	FL	32801	407-246-2555
Ms.	Ms.	Lisa	Early	Director, Families, Parks & Recreation		lisa.early@cityoforlando.net		595 N. Primrose Drive		Orlando	FL	32803	407.246.4320
Mr.	Chief	Orlando	Rolon	Police Chief		orlando.rolon@cityoforlando.net		P.O. Box 4990		Orlando	FL	32802	407-246-2401
Mr.	Mr.	James	Hunt	City Engineer		jim.hunt@cityoforlando.net		P.O. Box 4990		Orlando	FL	32802	407-246-3623
Mr.	Mr.	Rick	Howard	Public Works Director		richard.howard@cityoforlando.net		400 S. Orange Ave		Orlando	FL	32801	407.246.3222
Mr.	Mr.	Dean	Grandin	Planning Division Manager		dean.grandin@cityoforlando.net		P.O. Box 4990		Orlando	FL	32802	407.246.2120
Ms.	Ms.	Brittany	Sellers	Sustainability Project Manager, Green Works Orlando		brittany.sellers@cityoforlando.net		P.O. Box 4990		Orlando	FL	32802	
Mr.	Mr.	Richard	Forbes	Historic Preservation Officer		richard.forbes@cityoforlando.net		P.O. Box 4990		Orlando	FL	32802	407-246-3550
Mr.	Mr.	Oren	Henry	Director of Housing & Community Development		oren.henry@cityoforlando.net		P.O. Box 4990		Orlando	FL	32802	407.246.2328
Ms.	Ms.	Pauline	Eaton	Orlando Main Streets Program		paula.eaton@cityoforlando.net		P.O. Box 4990		Orlando	FL	32802	
Mr.	Mr.	Tyler	Chandler	After School All Stars Orlando		tyler.chandler@cityoforlando.net		595 North Primrose Drive		Orlando	FL	32803	407.246.2043
Mr.	Mr.	Adamaris	Ramirez	Parramore Kidz Zone		Adamaris.Ramirez@cityoforlando.net		P.O. Box 4990		Orlando	FL	32802	

Orlando Bike Plan Update Hand-Delivery

Winter Park Cycles -- 3014 Corrine Drive, 32803

~~Ace Metric Cycles -- 515 W Central Blvd., 32801~~ closed

Advanced Cycles -- 6651 S. Semoran Blvd., #104, 32822

Winter Garden Wheel Works -- 101 W. Plant Street, 34787

Cycle Spectrum -- 457 Alafaya Trail N

David's World Cycle -- 2517 Edgewater Drive, 32804

Full Circle Bicycle -- 2445 S Hiawassee Road, 32835

Kyle's Bike Shop -- 203 N. Primrose Drive, 32803

Orange Cycle -- 2204 Edgewater Drive, 32806

~~Performance Bicycle -- 51 North Orlando Avenue, 32789~~ closed

Washington Park Library -- 5151 Raleigh St A, 32811

South Trail Library -- 4600 S Orange Blossom Trail, 32839

Southeast Library -- 5575 S Semoran Blvd, 32822

Orlando Public Library -- 101 E Central Blvd, 32801

Orange County Health Department -- 6101 Lake Ellenor Drive, 32809

APPENDIX I

BIKE PLAN UPDATE

PUBLIC MEETINGS

MARCH 26
APRIL 09
APRIL 17

MARCH 26 | 5:30 - 7 P.M. | BEARDALL SENIOR CENTER
800 SOUTH DELANEY AVENUE, ORLANDO, FL 32801

APRIL 09 | 6 - 7:30 P.M. | DR. JAMES R. SMITH NEIGHBORHOOD CENTER
1723 BRUTON BOULEVARD, ORLANDO, FL 32805

APRIL 17 | 6 - 7:30 P.M. | LAKE NONA HIGH SCHOOL CAFETERIA
12500 NARCOOSSEE ROAD, ORLANDO, FL 32832

The City of Orlando is updating its bicycle plan to expand and improve conditions and facilities for bicycling throughout the city.

Join us at any one of the three scheduled open house meetings to learn about closing existing gaps in the bicycle network, connecting to community destinations and opportunities, and improving safety for cyclists of all ages and abilities.

For more information, please visit orlando.gov/bikeplan.



CITY OF ORLANDO
TRANSPORTATION

YOU'RE INVITED!

BIKE PLAN UPDATE

PUBLIC MEETING

ORLANDO.GOV/BIKEPLAN

MARCH 26, 5:30 - 7 P.M.
BEARDALL SENIOR CENTER
800 SOUTH DELANEY AVENUE



CITY OF ORLANDO
TRANSPORTATION

YOU'RE INVITED!

BIKE PLAN UPDATE

PUBLIC MEETING

ORLANDO.GOV/BIKEPLAN

APRIL 9, 6 - 7:30 P.M.
DR. JAMES R. SMITH
NEIGHBORHOOD CENTER
1723 BRUTON BOULEVARD



CITY OF ORLANDO
TRANSPORTATION

YOU'RE INVITED!

BIKE PLAN UPDATE

PUBLIC MEETING

ORLANDO.GOV/BIKEPLAN

APRIL 17, 6 - 7:30 P.M.
LAKE NONA HIGH SCHOOL CAFETERIA
12500 NARCOOSSEE ROAD



CITY OF ORLANDO
TRANSPORTATION

APPENDIX J

BIKE PLAN UPDATE

Public Meeting No. 1
Beardall Senior Center
March 26, 2019

PUBLIC COMMENT FORM

Name Jeffrey Ultee Phone: 908-642-2811

Address: 1650 N. Mills Ave Apt 258

City: Orlando State: FL Zip: 32803

Email: jeffrey.ultee@gmail.com

Please use this comment form to provide input for the City of Orlando Bicycle Plan Update.

COMMENTS:

- Paved bike lanes on brick streets such as ~~Rivington~~ Livington
  - good candidates: Ivanhoe in College Park, Summerlin, Delaney
- Road diet on Princeton St.
- off-peak parking lane conversion on roads such as Mills Ave.
- More signalized intersections (to slow traffic & provide bike crossings
- Contra flow bike lanes could be way to save space on roads like Edgewater - prevents dooring
- ~~Off-road trails~~
- Multiuse trails on high speed roads such as Semoran

Please send comments or questions via email or U.S. Mail to:

Mr. Jamie Krzeminski, P.E.
315 East Robinson Street, Suite 400
Orlando, FL 32801
Jamie.Krzeminski@hdrinc.com
407.420.4250

PLEASE INCLUDE YOUR CONTACT INFORMATION BELOW TO STAY UP TO DATE ON CITY PROJECTS

NAME: Bryan Zebleckes **EMAIL:** bzebleckes@gmail.com **PHONE:** 302-494-0384

NOTES/COMMENTS:

thanks for this meeting. I live near Curry Ford & would bike a lot more often if it was safer in that area. Coming to this meeting I watched cyclist nearly get hit while stopped at a red light.



ORLANDO.GOV/BIKEPLAN

2

CITY OF ORLANDO TRANSPORTATION

PLEASE INCLUDE YOUR CONTACT INFORMATION BELOW TO STAY UP TO DATE ON CITY PROJECTS

NAME: Dimitre Guenov **EMAIL:** d.guenov@gmail.com **PHONE:** 407-325-0411

NOTES/COMMENTS:

More funding! We need to be more equitable in split between roads/transit/bikes/peds/etc. I would happily pay more taxes to allow for funding in non-road priorities!



ORLANDO.GOV/BIKEPLAN

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CITY OF ORLANDO TRANSPORTATION

PLEASE INCLUDE YOUR CONTACT INFORMATION BELOW TO STAY UP TO DATE ON CITY PROJECTS

NAME: Aaron Powell EMAIL: aaron@orlandobikes.org PHONE: 407-222-0167

NOTES/COMMENTS:

Great work! Looking forward to seeing so many of these projects come to fruition —ATP



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CITY OF ORLANDO TRANSPORTATION

PLEASE INCLUDE YOUR CONTACT INFORMATION BELOW TO STAY UP TO DATE ON CITY PROJECTS

NAME: Allan Smith EMAIL: Allan.Smith@Gmail.com PHONE: 407-415-0713

NOTES/COMMENTS:

- More Bike Racks Please!
- Great job with increasing bike lanes!



ORLANDO.GOV/BIKEPLAN

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CITY OF ORLANDO TRANSPORTATION

PLEASE INCLUDE YOUR CONTACT INFORMATION BELOW TO STAY UP TO DATE ON CITY PROJECTS

NAME: DAVID WESSMAN **EMAIL:** president@SouthEola.com **PHONE:**

NOTES/COMMENTS:



ORLANDO.GOV/BIKEPLAN

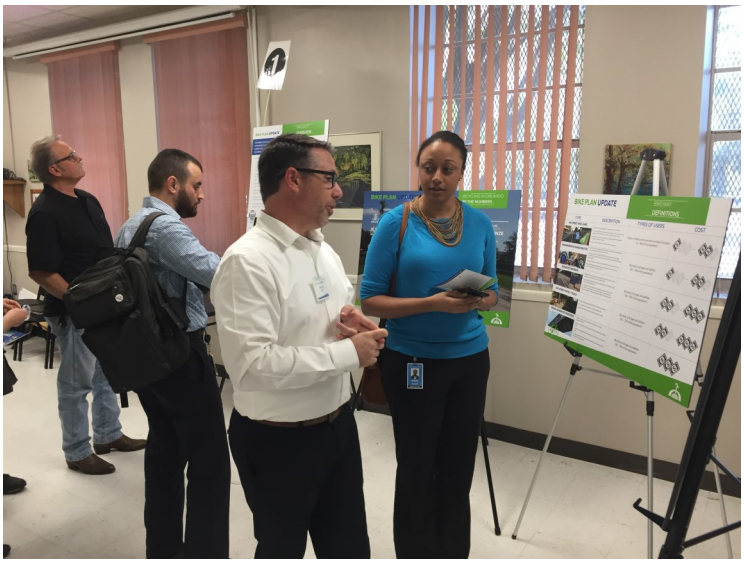
CITY OF ORLANDO
TRANSPORTATION

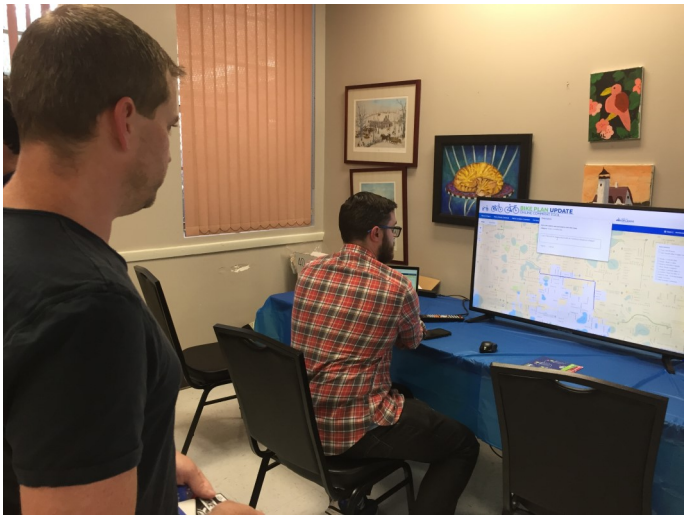
APPENDIX K

Orlando Bike Plan Update

Public Meeting Photos











March 26, 2019

Beardall Senior Center

Orlando Bike Plan Update

Public Meeting Photos











April 9, 2019

Smith Neighborhood Center

Orlando Bike Plan Update

Public Meeting Photos





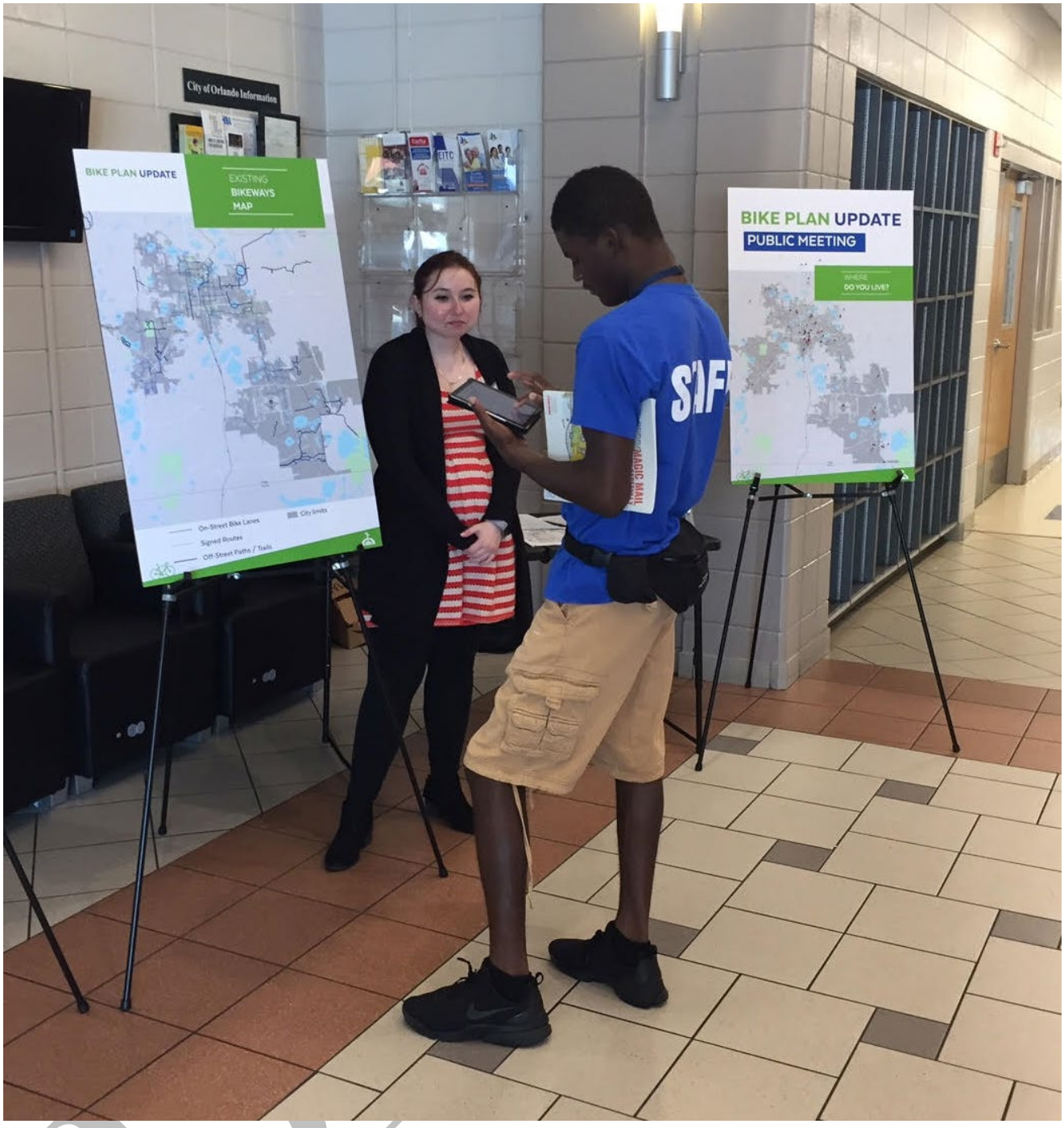






April 17, 2019

Lake Nona High School



Orlando Bike Plan Update: Public Outreach and Engagement Summary Report

Prepared for: Jamie Krzeminski and Jennifer Rhodes, HDR Inc.
Prepared by: Charles T Brown, President/CEO, Equitable Cities LLC
July 23, 2019

Orlando Bike Plan UPDate: Public Outreach and Engagement Summary Report

Introduction

The full and fair participation of residents in the transportation decision-making process is one of the foundational elements in the creation of equitable transportation systems and safe, healthy and sustainable communities as a whole. To complement the TEAM's strategic deployment of the initial and more traditional public outreach and engagement activities (i.e., open house meetings and online tools) throughout the City, the Team proposed to reach additional residents—particularly low-income, minority, and limited English proficiency (LEP) communities—through the use of a non-traditional outreach and engagement strategy: a "pop-up kiosk."

This "Go-to-Them" outreach and engagement method is necessary to ensure that processes are equitable and inclusive, and thus result in greater diversity of feedback and opinions regarding the future of bicycling in the City. Greater diversity of feedback and opinions is vital considering that initial results from the first three public meetings showed much higher participation from residents within the downtown area and those who stated that they are very comfortable riding a bicycle. This also supports recent research and best practices that document how minority communities and limited English proficiency populations are less likely to attend traditional public meetings or participate online in engagement activities and surveys.

The purpose of this report is to summarize the findings from surveys administered at pop-up kiosks in four neighborhood centers throughout the City of Orlando. The overall purpose of the additional public outreach and engagement effort was to engage, inform, and collect feedback on the Orlando Bike Plan Update from more traditionally underserved populations, with the following goals in mind:

1. Ensure the full and fair participation of low-income and minority communities;
2. Ensure the full and fair participation of limited English proficiency and foreign-born populations;
3. Ensure diversity in feedback from bicyclists and non-bicyclists; and,
4. Increase opportunities for intergenerational feedback.

The summary report is organized into four main sections. First, this section, the Introduction, provides an overview of the purpose and organization of the report. Secondly, the Methodology section covers the methods used to strategically engage and inform residents via in-person surveys at the pop-up kiosks in four neighborhoods in the City. Thirdly, the Public Outreach and Engagement Activity section highlights the results of the in-person surveys. Lastly, the Conclusion section summarizes the findings from the report.

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Methodology

Go-to-them outreach and engagement strategies are extremely effective at reaching and engaging minorities and other traditionally underserved populations in the transportation decision-making process. Of these strategies, the use of pop-up

kiosks is one of the most effective strategies given its simplicity in design and appearance, flexibility in deployment and mobility, and variability in structure and size.

Between June 20th and June 27th, the TEAM conducted "pop-up kiosks" at four community/neighborhood centers within the City: Northwest Community Center; Rosemont Community Center; Jackson Community Center; and Englewood Neighborhood Center (see Figure 1). The pop-up kiosks were generally held between the hours of 4pm to 7pm, save for the engagement at Englewood Neighborhood Center, which was held from 5pm to 7pm.

Each kiosk station was staffed by two (2) people. Staff was present during the entire length of the designated pick-up time at each facility, arrived 30-minutes to an hour before the designated time to set-up the kiosk and stayed 30-minutes after the designated time for breakdown of the kiosk. The estimated number of hours for each engagement was four hours (1-hour set-up, 2 hours engagement, 1-hour breakdown), not including travel to and from each site. The set-up and materials for each engagement included one (1) rectangular table; two (2) easels/tabletop sign holders; two (2) iPads; printed surveys for back-up (minimum:100); pens; sign-in sheets; project overview handouts; to "Tell Us How to Make Orlando's Bikeways Better" banner/welcome sign; and comment cards.

With a goal of collecting a minimum of 30 surveys at each location, the pop-up kiosks were arranged near the front entrances of buildings during afternoon pick-up hours, allowing the opportunity for both parents and their children to a) receive information about the Bike Plan and b) take a brief survey on an iPad to determine their priorities, opportunities, and concerns in the development of the Orlando Bike Plan. Participants were also able to participate by paper survey or by typing responses directly into the iPad using the online mapping tool. Participants also received a handout directing them to the project webpage for more information.

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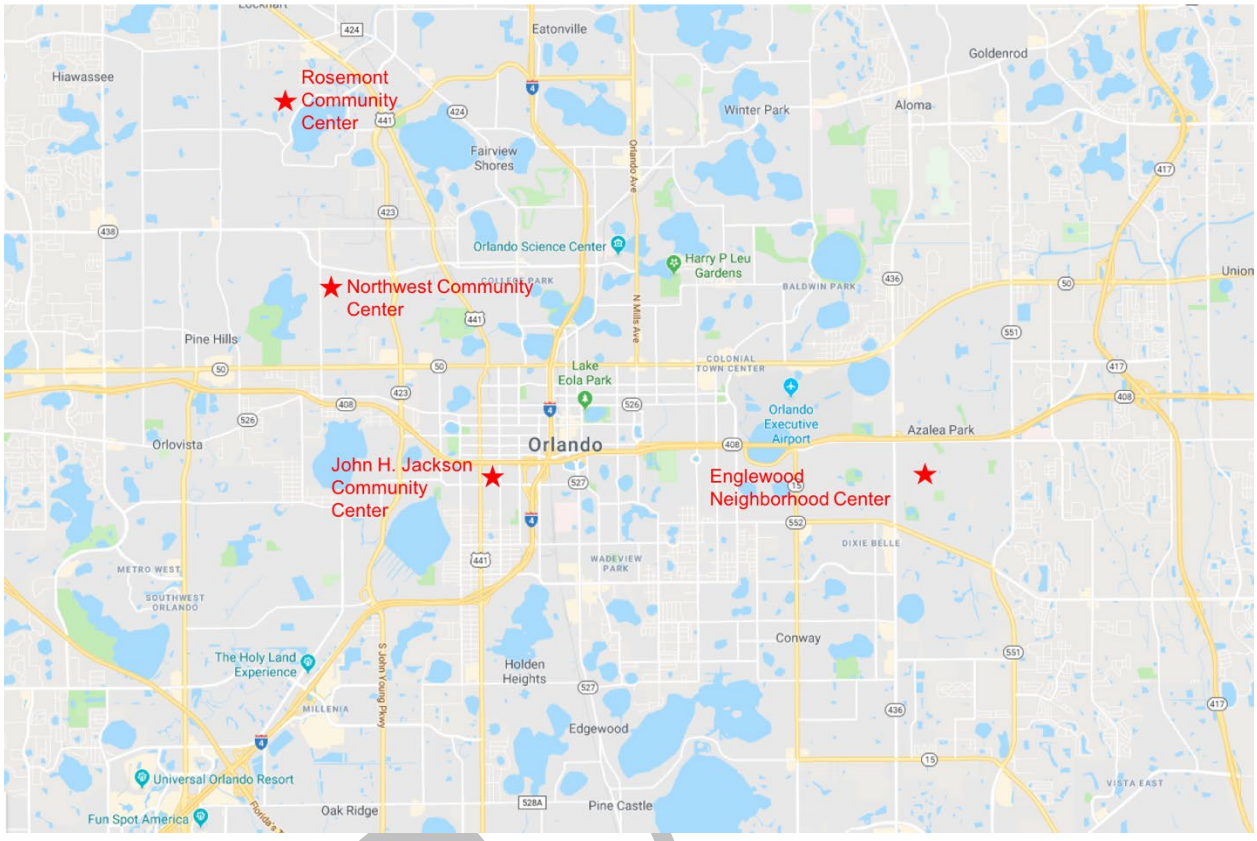
Figure 1: Pop-Up Kiosks Locations in the City of Orlando, 2019.



Public Outreach and Engagement Activity Results

This section includes results from the in-person surveys administered at pop-up kiosks in four neighborhood centers in Orlando: Northwest Community Center; Rosemont Community Center; Jackson Community Center; and Englewood Neighborhood Center. There was a total of 118 survey respondents, with the overwhelming majority electing to complete the surveys in-person and less than approximately 5% of respondents electing to complete the survey online after engaging with staff. Demographic info was not collected from survey respondents as part of the survey and outreach effort; however, staff noted that the overwhelming majority, if not all, of the respondents were a racial/ethnic minority. As pointed out by staff, this is in direct contrast with participants observed at the prior and more traditional public outreach and engagement efforts.

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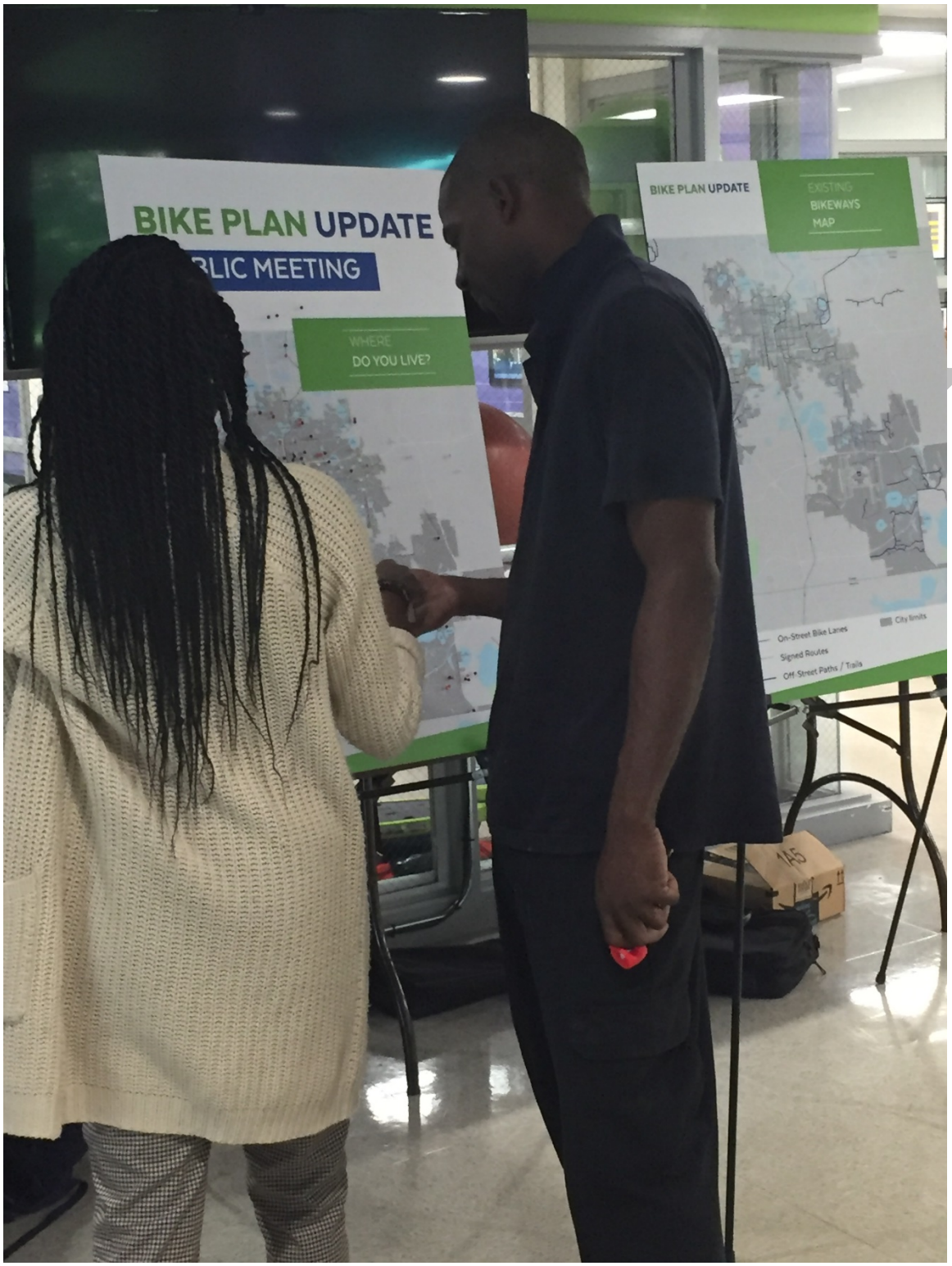

BIKE PLAN UPDATE
BLIC MEETING
WHERE
DO YOU LIVE?
BIKE PLAN UPDATE
EXISTING
BIKEWAYS
MAP
On-Street Bike Lanes
Signed Routes
Off-Street Paths / Trails
City limits

While this section includes the same elements (i.e., questions and answers) included in the survey, this section is arranged differently to allow for a more complete and logistical transition between the different questions in the survey. For example, instead of reviewing the findings from each question as listed in its chronological order in the survey, this section organizes questions into four main categories: survey respondents, bike plan update goals, prioritized investments, and future of biking in Orlando.

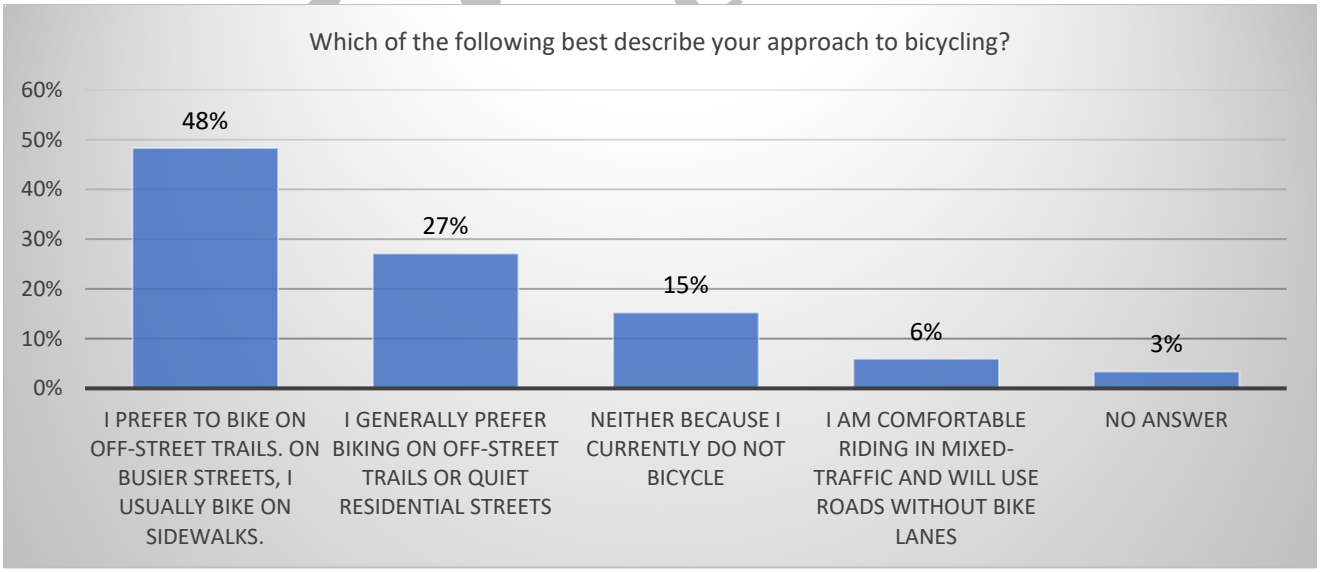
SURVEY RESPONDENTS

This section includes survey respondents' answers to questions regarding their a) approach to cycling, b) bicycle ownership, c) bicycle usage, d) bicycle purposes, e) bicycle travel times, and f) bicycle shop visitation and spending.

Approach to Cycling

Survey respondents were asked to select from a list of four statements which one best describes their approach to bicycling. As shown in Figure 2, the majority (48%) of respondents stated their preference for bicycling on off-street trails and on sidewalks when bicycling on busier streets. The second most popular choice among more than one-quarter (27%) of the respondents was their preference for biking on off-street trails or quiet residential streets. The least popular approach to biking was their preference for riding comfortably in mixed-traffic and on roads without bike lanes, with only 6% of the survey respondents answering affirmatively. By comparison, fewer respondents were comfortable riding in mixed-traffic and will use roads without bike lanes than those surveyed in the traditional public meetings, 6% versus 39%, respectively.

Figure 2: Respondents' Approach to Cycling, 2019



Bicycle Ownership

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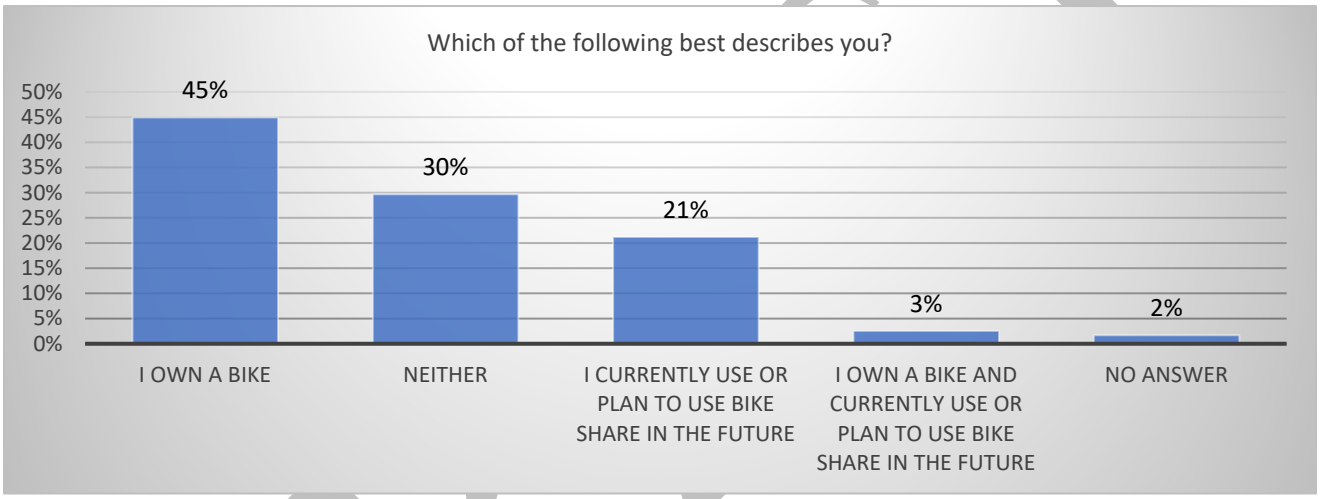
Survey respondents were asked to select from a list of three options in response to the survey question, “Which of the following best describes YOU?” Their options included the following: “I own a bike;” “I currently use or plan to use bike share in the future,” and “neither.” Based on the survey responses, a fourth option was added which accounts for all respondents that stated that they “own a bicycle and currently use or plan to use bike share in the future.” As shown in Figure 3, forty-five percent (45%) of respondents stated they own a bicycle. Twenty-one percent (21%) stated that they currently use or plan to use bike share in the future. Thirty percent (30%) of respondents stated that they do not own a bike nor plan to use bike in the future. By comparison, fewer respondents own a bicycle than those surveyed in the traditional public meetings, 45% versus 90%, respectively.

Figure 3: Respondents' Bicycle Ownership or Use of Bikeshare, 2019.



Bicycle Usage

Survey respondents were asked to state how often they ride their bicycles for any purpose. Their options ranged from almost every day to a couple times a month to rarely/never. As shown in Figure 4, 43% of respondents stated that they rarely or never ride their bicycles for any purpose. 41% of respondents stated that they ride their bicycles a couple times a month. Only a small fraction (2%) of the respondents stated that they ride their bicycles almost every day. By comparison, fewer respondents ride a bicycle “almost every day” than those surveyed in the traditional public meetings, 2% versus 32%, respectively.

Figure 4: Respondents' Bicycle Usage, 2019.

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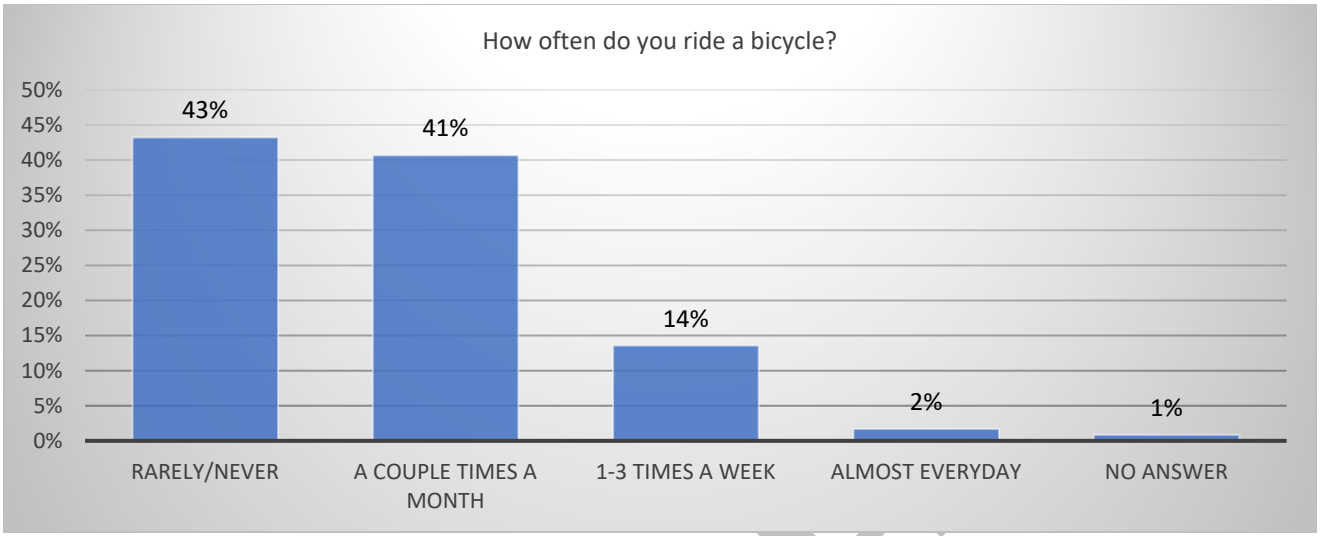
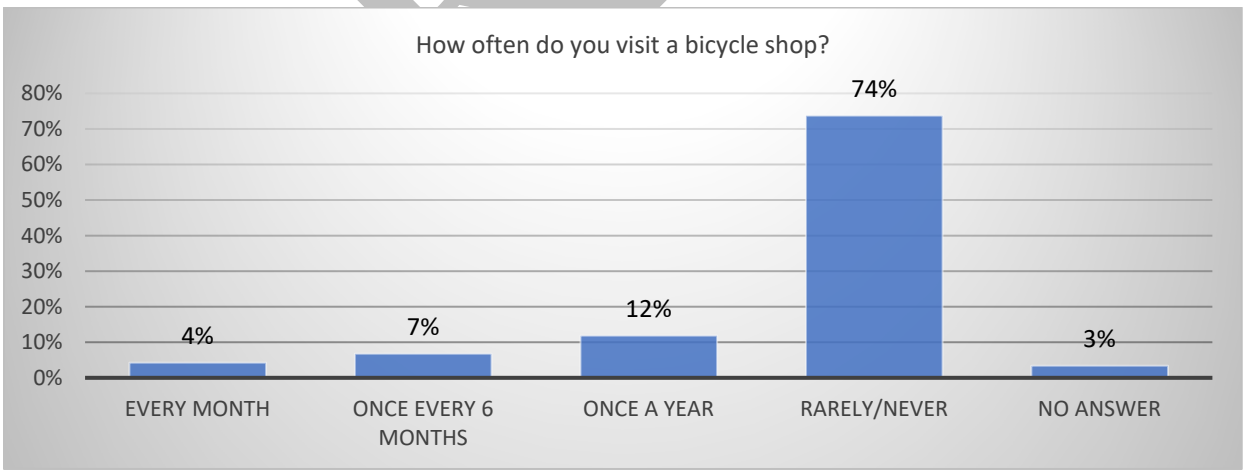


Bicycle Shop Visitation and Spending

Survey respondents were asked to state how often they visit bicycle shops, with options ranging from monthly to twice a year to rarely/never. As shown in Figure 5, the overwhelmingly majority (74%) of respondents stated that they rarely or never visit bicycle shops. Slightly more than one in ten respondents (12%) stated that they visit bike shops once a year and only a small fraction (4%) of the respondents stated that they visit a bike shop every month. By comparison, fewer respondents visit a bicycle shop "every month" than those surveyed in the traditional public meetings, 4 % versus 25%, respectively.

Figure 5: Respondents' Bicycle Shop Visitation, 2019.



When asked how much money they spend on bike-related items (e.g., repairs and equipment) when frequenting bike shops, the overwhelmingly majority (81%) of respondents stated that they spend less than $100 per year (see Figure 6).

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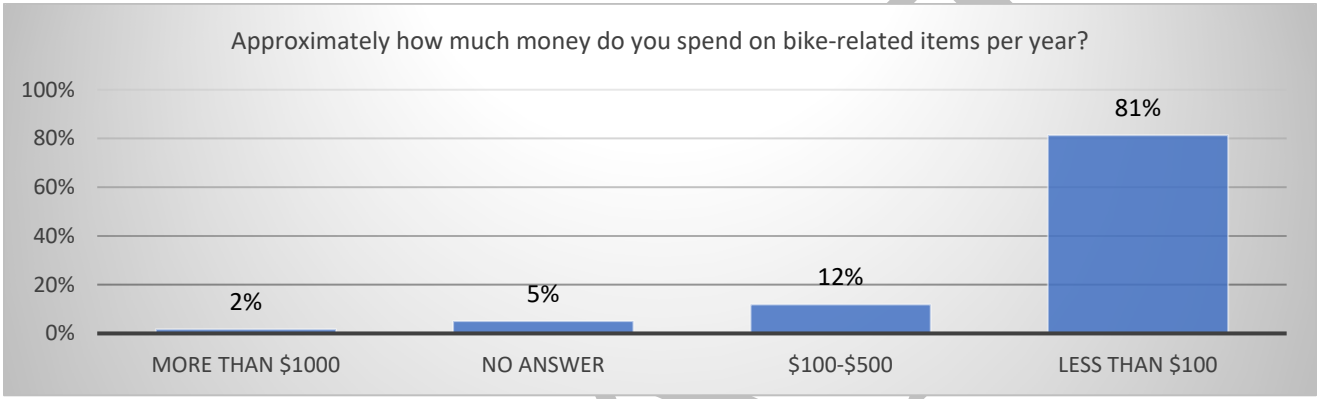
Comparatively, slightly more than one in ten respondents (12%) stated that they spend between $100 and $500 per year. Only a small minority (2%) of respondents stated that they spend more than a $1,000 per year. By comparison, fewer respondents spend on average what those surveyed in the traditional public meetings spend on a yearly basis. For instance, only 2% of respondents spend more than $1,000 per year at bicycle shops, whereas 16% of respondents from the traditional public meeting spend that much each year.

Figure 6: Respondents' Bicycle-Related Spending Per Year, 2019.



Bicycle Purpose

Survey respondents were asked to state their primary purpose for bicycling. Their options included recreation/leisure, health, commuting to/from work or school, and travel for shopping or entertainment. As shown in Figure 7, the overwhelming majority (87%) of respondents stated that they bicycle for health or recreation/leisure. Of those respondents, 46% bicycle for health purposes and 41% bicycle for recreation/leisure. Less than 1% of respondents stated that they bike for shopping or entertainment purposes, and only 4% of respondents stated that they use their bicycles to commute to/from work or school. By comparison, fewer respondents commute by bicycle to/from work or school than those surveyed in the traditional public meetings, 4% versus 15%, respectively.

Figure 7: Respondents' Primary Purpose for Bicycling, 2019.

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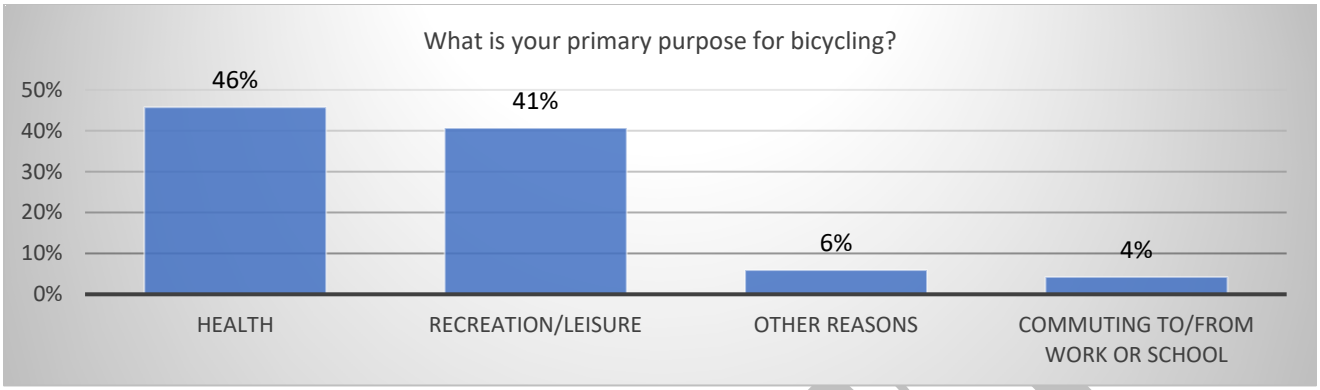
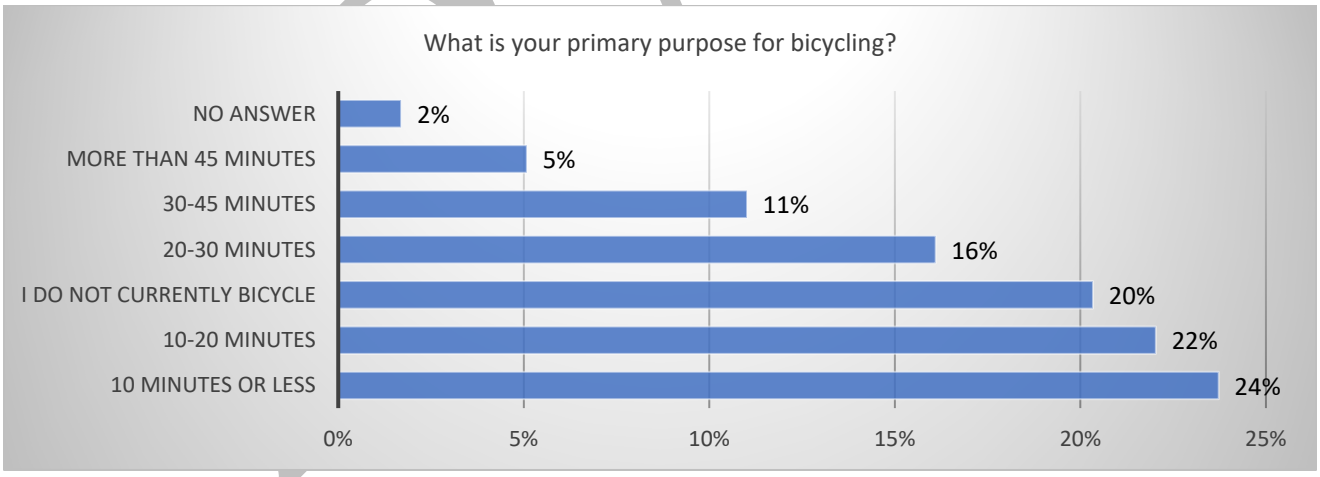


Bicycle Travel Time

Survey respondents were asked to state how long [in minutes] they are willing to bike to reach key destinations, such as work, school, shopping or entertainment—without opting for other means or transportation such as a car, rideshare, or transit. As shown in Figure 8, nearly one-quarter (24%) of respondents stated that they would travel up to 10 minutes or less to reach key destinations, followed by another 22% that would be willing to travel between 10-20 minutes. Slightly more than ten percent of respondents also stated that they would be willing to travel 20-30 minutes (16%) and 30-45 minutes (11%), respectively. Only a small fraction (5%) of the respondents stated that they would be willing to travel more than 45 minutes by bike to reach key destinations. By comparison, fewer respondents are willing to bike more than 45 minutes to a key destination than those surveyed in the traditional public meetings, 5% versus 12%, respectively.

Figure 8: Respondents' Willingness to Travel by Bicycle in Minutes, 2019.



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This section includes survey respondents' feedback on a list of five primary goals that are included in the Bike Plan Update. The goals include 1) making bicycling comfortable for all ages & abilities; 2) creating & maintaining a connected, low-stress bikeway network linking key destinations; 3) providing equitable access for all neighborhoods, backgrounds, & income levels; 4) improving safety through engineering, education & enforcement; and 5) building a culture of bicycling.

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LaPrensa

Goals

Survey respondents were asked to choose which one of the five goals they felt were *most important* to them. As shown in Table 1, more than one in three respondents (39%) selected "making bicycling comfortable for all ages and abilities" as the most important goal in the bike plan update, followed by nearly twenty percent (19%) that selected "providing equitable access for all neighborhoods, backgrounds, and income levels" as the number two most important goal. Combined, the two goals overwhelmingly highlight the value and importance survey respondents place on creating an equitable transportation system for everyone—regardless of one's age, ability, income, neighborhood or racial/ethnic background. The goal that received the least support was "building a culture of bicycling," which received 7% of the total votes.

Table 1: Respondents' Perceptions of the Most Important Goal in the Bike Plan Update, 2019.

Goals	Frequency	Percentage
Making bicycling comfortable for all ages & abilities	46	39%
Providing equitable access for all neighborhoods, backgrounds, & income levels	23	19%
Improving safety through engineering, education & enforcement	21	18%
Creating & maintaining a connected, low-stress bikeway network linking key destinations	19	16%
Building a culture of bicycling	8	7%
Did not answer	1	1%
Total	118	100%

PRIORITY INVESTMENTS

This section includes survey respondents' feedback on a list of eight investments aimed at improving bicycle safety, mobility, and education in the City as a whole. The investments ranged from "improving connections to trails and bike lanes with neighborhood wayfinding and signage" to "providing easier ways to cross major roads/highways" to "holding more City-sponsored bicycling", such as "Bike to Work Day." Respondents were asked to rate the priority of the investments on a five-point scale, with options ranging from "not important" to "extremely important."

Improving Connections to Trails and Bike Lanes

As shown in Table 2, a majority (68%) of respondents believe that it is very important to extremely important to prioritize investments in improving connections to trails and bike lanes with neighborhood wayfinding and signage within the City. Of those respondents, 48% stated that is "extremely important" and 20% stated that is "very important." Comparatively,

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only 4% of the survey respondents stated that it is not important to prioritize investments in improving connections to trails and bike lanes within the City.

Table 2: Respondents' Level of Importance Rating Regarding Improving Connections to Trails and Bike Lanes, 2019.

Level of Importance	Frequency	Percentage
Extremely Important	56	47%
Somewhat Important	24	20%
Very Important	23	19%
Important	10	8%
Not Important	5	4%
Total	118	100%

Expanding the Trail Network

As shown in Table 3, nearly six out of ten respondents (58%) of respondents believe that it is very important to extremely important to prioritize investments the City's trail network. Of those respondents, 37% stated that is "extremely important" and 21% stated that is "very important." While no respondent stated that it was "not important" to prioritize investments in trail network expansion, 21% did state that is was only "somewhat important" to do so.

Table 3: Respondents' Level of Importance Rating Regarding Expanding the Trail Network, 2019.

Level of Importance	Frequency	Percentage
Extremely Important	44	37%
Very Important	25	21%
Important	19	16%
Somewhat Important	25	21%
Did Not Answer	5	4%
Total	118	100%

Upgrading Existing On-Street Bike Lanes

As shown in Table 4, a majority (66%) of respondents believe that it is very important to extremely important to prioritize investments in upgrading existing on-street bike lanes to protected bike lanes, cycle tracks, and off-street trails within the City. Of those respondents, 46% stated that is "extremely important" and 20% stated that is "very important." While no respondent stated that it was "not important" to prioritize investments in upgrading existing on-street bike lanes to protected lanes, cycle tracks and off-street trails within the City, 19% did state that is was only "somewhat important" to do so.

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Table 4: Respondents' Level of Importance Rating Regarding Upgrading Existing On-Street Bike Lanes, 2019.

Level of Importance	Frequency	Percentage
Extremely Important	54	46%
Very Important	24	20%
Important	12	10%
Somewhat Important	22	19%
Did Not Answer	6	5%
Total	118	100%

Providing Easier Ways to Cross Major Roads

As shown in Table 5, an overwhelming majority, or nearly eight out of ten (79%) respondents, believe that it is very important to extremely important to prioritize investments in providing easier ways to cross major roads within the City. Of those respondents, 63% stated that is "extremely important" and 16% stated that is "very important." While no respondent stated that it was "not important" to prioritize investments in providing easier ways to cross major roads within the City, 12% did state that is was only "somewhat important" to do so. It is also important to note, however, that this investment strategy received the *highest rating* of all strategies.

Table 5: Respondents' Level of Importance Rating Regarding Providing Easier Ways to Cross Major Roadways, 2019.

Level of Importance	Frequency	Percentage
Extremely Important	74	63%
Somewhat Important	19	16%
Very Important	6	5%
Important	14	12%
Not Important	5	4%
Total	118	100%

Developing Showcase Pilot Projects

As shown in Table 6, less than half (46%) of the respondents believe that it is very important to develop showcase pilot projects (e.g., Curry Ford) within the City. Of those respondents, 26% stated that is "extremely important" and 20% stated that is "very important." Comparatively, nearly one in three respondents or 32% stated that is was only "somewhat important" to prioritize this investment. This proposed investment received the *lowest rating* of all of the proposed investment strategies.

Table 6: Respondents' Level of Importance Regarding Developing Showcase Pilot Projects in the City, 2019.

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Level of Importance	Frequency	Percentage
Extremely Important	31	26%
Very Important	23	19%
Important	17	14%
Somewhat Important	38	32%
Did Not Answer	9	8%
Total	118	100%

Adding Additional Bike Parking and Repair Facilities

As shown in Table 7, slightly more than half (53%) of the respondents believe that it is very important to extremely important to prioritize investments in adding additional bike parking and repair facilities within the City. Of those respondents, 33% stated that is "extremely important" and 20% stated that is "very important." While no respondent stated that it was "not important" to prioritize investments in adding additional bike parking and repair facilities within the City, a sizable minority or 28% stated that is was only "somewhat important" to do so. Many of those respondents likely reflect the respondents (30%) that stated that they do not own a bicycle.

Table 7: Respondents' Level of Importance Rating Regarding Adding Additional Bike Parking and Repair Facilities in the City, 2019.

Level of Importance	Frequency	Percentage
Extremely Important	39	33%
Very Important	24	20%
Important	17	14%
Somewhat Important	33	28%
Did Not Answer	5	4%
Total	118	100%

Expanding Bicycle Safety Education Programs

As shown in Table 8, the majority (64%) of respondents believe that it is very important to extremely important to prioritize investments in expanding bicycle safety education programs within the City. Of those respondents, 42% stated that is "extremely important" and 22% stated that is "very important." While no respondent stated that it was "not important" to prioritize investments in expanding bicycle safety education programs within the City, a sizable minority or more than one in four respondents (28%) stated that is was only "somewhat important" to do so.

Table 8: Respondents' Level of Importance Rating Regarding Expanding Bicycle Safety Education in the City, 2019.

Level of Importance	Frequency	Percentage

DRAFT

Extremely Important	49	42%
Very Important	26	22%
Important	7	6%
Somewhat Important	31	26%
Did Not Answer	5	4%
Total	118	100%

Holding More City-Sponsored Bike Events

As shown in Table 9, the majority (62%) of respondents believe that it is very important to extremely important to prioritize investments in holding more City-sponsored bicycling events (e.g. temporary street closings for biking events, Bike to Work Day) within the City. Of those respondents, 38% stated that is "extremely important" and 24% stated that is "very important." While no respondent stated that it was "not important" to host more City-sponsored bike events within the City, a sizable minority or more than one in four respondents (26%) stated that is was only "somewhat important" to do so.

Table 9: Respondents' Level of Importance Rating Regarding Holding More City-Sponsored Bicycle Events, 2019.

Level of Importance	Frequency	Percentage
Extremely Important	45	38%
Very Important	28	24%
Important	9	8%
Somewhat Important	31	26%
Did Not Answer	5	4%
Total	118	100%

The cumulative average (mean) rating provided by survey respondents for all the proposed investment strategies was 2.84. Of the eight investment strategies provided, only three strategies received a rating above the mean. As shown in Table 10, the three investments that received the highest rating by survey respondents are: 1) providing easier ways to cross major roadways (3.35); 2) improving connections to trails and bike lanes with neighborhood wayfinding and signage (2.98); and, 3) upgrading existing on-street bike lanes to protected bike lanes, cycle tracks, and off-street trails. Comparatively, the bottom three investment strategies are: 1) hosting more City sponsored bicycling events (2.77); 2) adding additional bike parking and repair facilities (2.61); and, 3) developing showcase pilot projects (e.g. Curry Ford). However, it is important to note that each of these investment strategies received a *favorable rating* when scored separately, as identified above. Therefore, the comparison of investment strategies is only meant to inform decision-making and the prioritization of investments. By comparison, there were similarities in the way the respondents and the respondents from the traditional public meetings rating the proposed investment strategies. The key difference is that the survey respondents placed a higher value on adding more bike parking.

DRAFT

Table 10: Respondents' Comparison of All Investment Strategies, 2019.

Investment Strategies	Mean Rating	Medium Rating
Provide easier ways to cross major roads	3.35	4
Improve connections to trails and bike lanes with neighborhood way-finding and signage	2.98	3
Upgrade existing on-street bike lanes to protected bike lanes, cycle tracks, and off-street trails	2.98	3
Expand bicycle safety education programs	2.82	3
Expand the trail network	2.78	3
Hold more City sponsored bicycling events (e.g. temporary street closings for biking events, Bike to Work Day)	2.77	3
Add additional bike parking and repair facilities	2.61	3
Develop showcase pilot projects (e.g. Curry Ford)	2.43	2
Cumulative Average	2.84	3

FUTURE OF BIKING IN ORLANDO

This section includes survey respondents' feedback on the future vision for biking in Orlando, as respondents were asked to share their thoughts on the future in one to three words. The word cloud below includes their collective responses, with the exception of common words, such as "the," "and," "was," "were," and "they," which have been excluded for greater clarity and analysis of feedback. As shown in the Figure 11, the most commons words were safety, traffic, bike paths and trails. The overall focus was safety for kids and adults from dangerous and speedy drivers and traffic as a whole.

Figuree 11: Respondents' Vision for the Future of Biking in the City, 2019.

DRAFT



SELECT QUOTES FROM SURVEY RESPONDENTS

Survey respondents were given an option to be quoted in the bike plan update by providing a statement on why biking is important to them, by sharing their opinions on what biking in Orlando is like today, and by stating what they would like to see related to biking in the future. Below are a select number of quotes provided by survey respondents. The quotes are listed verbatim and thus have not been edited for any reason.

"I would love to be able to travel safely and efficiently with the use of a low emission transportation such as a bike so I would be very happy to see a plan that allows that!"

"Safe accessibility for children and handicap accessible."

"It's important to my health and that of my children. Currently I bike on the trail closest to me, so knowing other trails within my area would be great."

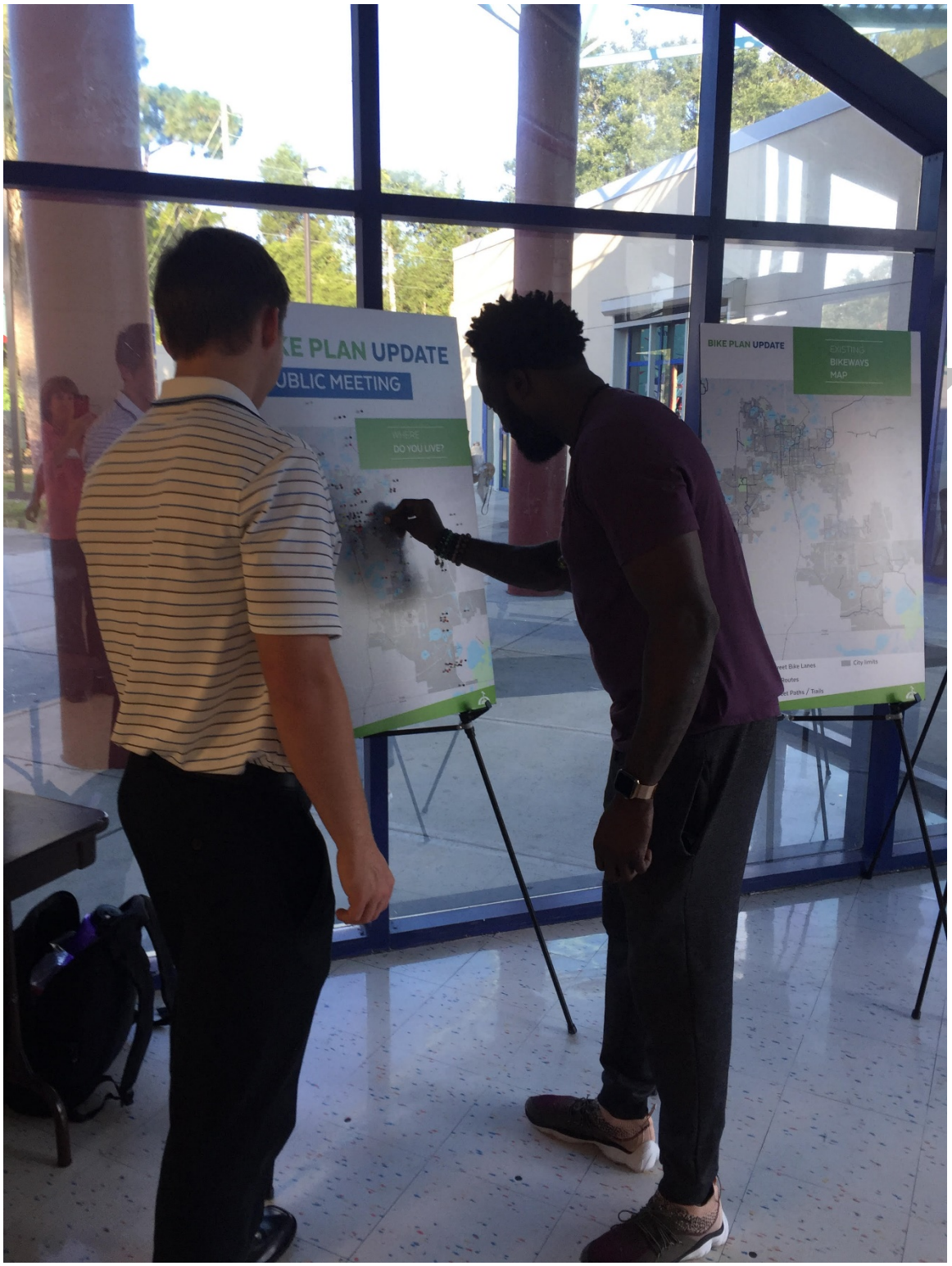
"Biking is important because it's good for our health and must cheaper than a car. However, when I bike as a family, I must be very aware of careless drivers."

"It's how I get everywhere. No bike no movement."

"Biking in Orlando is really beautiful. Unfortunately, it isn't like that in every neighborhood. Roads can get crowded and police can be aggressive when educating public on biking laws."

"I would like to see longer trails or connections between existing trails."

DRAFT


E PLAN UPDATE
UBLIC MEETING
WHERE
DO YOU LIVE?
BIKE PLAN UPDATE
EXISTING
BIKEWAYS
MAP
City limits

Conclusion

The overall purpose of the additional public outreach and engagement effort was to engage, inform, and collect feedback on the Orlando Bike Plan Update from more traditionally underserved populations, with the following goals in mind: ensure the full and fair participation of low-income and minority communities; ensure the full and fair participation of limited English proficiency and foreign-born populations; ensure diversity in feedback from bicyclists and non-bicyclists; and, increase opportunities for intergenerational feedback.

The survey results highlight the value and importance survey respondents place on creating an equitable transportation system for everyone everyone—regardless of one's age, ability, income, neighborhood or racial/ethnic background. Respondents expressed the importance of improving their collective safety, access and mobility through the prioritization of investments that a) provide easier ways to cross major roads, b) improve connections to trails and bike lanes with neighborhood wayfinding and signage, and c) upgrade existing on-street bike lanes to protected bike lanes, cycle tracks, off-street trails.

Respondents also expressed overwhelming support for off-street trails and improved trail access and connectivity, which is increasingly given that the majority of respondents' primary purpose for bicycling is health, recreation and leisure. In addition to the importance of the investments listed above, the City's bikeshare system can be promoted and encouraged as a safe, reliable, and viable means of transport for those that do not own bikes and those that stated that they currently use or plan to use bikeshare in the future.

DRAFT

BIKE PLAN UPDATE



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   ii. Meeting Agenda
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V. Meeting Photos 3

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A. Open House Sign-in Sheets
B. Open House Materials / Handouts
C. Open House Stations
D. Comment Forms

BIKE PLAN UPDATE

MEETING SUMMARY



The City of Orlando's Transportation Planning Department held a Bike Orlando Open House featuring multiple bicycle projects on Thursday, October 3, 2019, at the First United Methodist Church Orlando, 142 East Jackson Street, Orlando, 32801.

In addition to the Bike Plan Update, the Open House provided information on the Orlando Urban Gap Trail, Airport Gap, Gertrude's Walk Phase IV and Downtown Connector design projects, as well as the Downtown Gap Study.

The open house represented the fourth open house opportunity for the Bike Plan Update. A series of three open houses were held in March and April to introduce the project in various locations around the city. Additional outreach was conducted in the summer at four community centers.

A total of 34 people signed into the Bike Orlando Open House. A copy of the sign-in sheets is included in Appendix A.

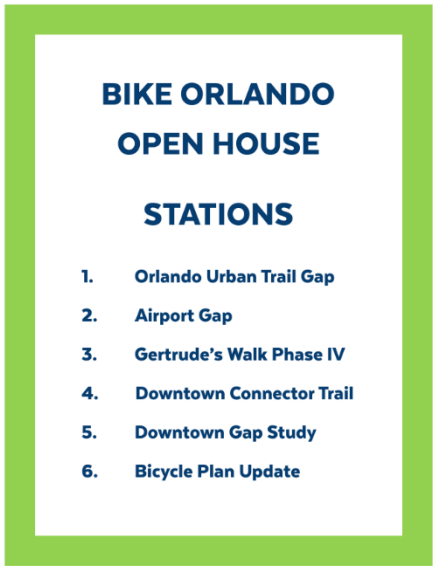
Meeting Format

The open house was held from 5:30 p.m. to 7 p.m. Attendees were greeted by project staff and asked to sign in. Each attendee was given an overview of the project stations, as well as a comment form. A map showing the locations of the projects, as well as a copy of the notification postcard were also available. Participants were encouraged to visit the stations to learn more and provide comment.

Copies of the Open House handouts are included in Appendix B.

Meeting Agenda

Stations for each of the six projects represented at the Open House were set up around the room. Each station had maps or roll plots showing the proposed trail. At the Bike Plan Update station participants were asked to place a push pin in a city map to show where they lived. Online





mapping tools and information were also available. The Downtown Gap Study offered a colorful map survey, asking attendees to rank preferred routes. The Open House also offered a puzzle game in which younger attendees could move pieces around to design their ideal street.

A copy of the station guide and signage is included in Appendix C.

MEETING NOTIFICATION

An open house postcard mailer was prepared for distribution to various audiences. The City of Orlando mailed more than 3,000 postcards to residents near the project areas. Postcards were also distributed to library branches throughout the city for posting, as well as sent to bicycle shops.

The City of Orlando also emailed the notification to its bicycle contact list and posted the invitation on several social media platforms, including Facebook and the Nextdoor neighborhood network. The City also posted the open house among Mayor Buddy Dyer's "Story Idea of the Week" posts.

MEETING COMMENTS SUMMARY

Attendees were encouraged to share input with project staff and to complete a comment form during the open house. A total of eight comment forms were received at the meeting. A brief overview of the general comments received is as follows:

- I fully support these projects. I look forward to being able to bike all around downtown Orlando. I hope t be able to commute to work via bike and have safe, separated bike facilities for my daughter to use.
- All of the projects are exciting for us and much needed. Separated bike lanes and connected facilities will allow us to get rid of our cars and utilize bike for all transportation. We don't bike as much now because of aggressive, careless drivers.
- I'd like to see a bike lane along OBT connecting Rosemont safely to College Park, Packing District and downtown. I'd also like to see some safety improvements around Lake Orlando which is a great bike trail, but I have been run off the road.
- I love that you are making the downtown more bike friendly. My main concern is there is no bike lane in a logical place to make the stretch of Orange Avenue from Pineloch Street to Lake Lucerne more bike friendly.
- I ride daily in Orlando and am concerned about east/west and north/south routes with smooth pavement and little or no traffic. I appreciate the city's dedication to a progressive program that promotes health and sustainability.
- Negotiate with Ace Café about right of way behind the building.
- Why go through the expense of cross-town bike paths on Pine or Church when Robinson has spaces for bike paths.

- Stay south of downtown to extend Anderson to Gertrude's trail.
- Gap Study – not clear of the plans for Eola Drive
- Gertrude's Walk – glad this is being connected, but it looks slower than just going to Orange.
- Cady Way – area by Fashion Square Mall still blocked by fencing.
- South of 408 – Orange bike lane disappears and roads parallel to Delaney are their own bricked/crooked nightmare.
- Airport Gap = maintain old trail.
- Urban Trail Gap – separate bike lanes one way on each side of the road. Intersection tables are a good idea.
- For all bike trails – prioritize safety over traffic reduction.

Copies of the comment forms are included in Appendix D.

MEDIA COVERAGE

Staff from WESH-2 News and Spectrum News 13 attended the open house and spoke with Orlando Project Manager Ian Sikonia.

MEETING PHOTOS









Appendix A

Bike Orlando Open House
October 3, 2019
First United Methodist Church Orlando

Staff Sign In

NAME	COMPANY/AGENCY	INITIALS
Elaine Rodríguez	QCA	ER
Kevin Camara	Quest	KC
Caitlyn Ballweber	VHB	CB
Ryan Verdel	VHB	RV
Mergued Hannee	HDR	MH
Mercedes Blanca	City of Orlando DDB/CRA	MB

Bike Orlando Open House
October 3, 2019
First United Methodist Church Orlando

Staff Sign In

NAME	COMPANY/AGENCY	INITIALS
Mark Suarez	HDR	
Ross PIPER	BORRELLI + PARTNERS	
Melissa Porcaro	HDR	
Ian Sikonia	Orlando	
BRANDON KELLEY	KAI	
Carolyn FitzWilliam	Guest	
Jeff Arndt	HDR	
JAMIE KRZEMINSKI	HDR	
MATT WIESENFELD	HDR	
Ryan Cunningham	Kittelson	
Jenn Rhodes	HDR	
ED BRYANT	CITY	
Crystal Odoh	HDR	
Mackenzie Bland	HDR	

BIKE ORLANDO
OPEN HOUSE

October 3, 2019
First United Methodist Church Orlando
Please Sign In

NAME	ADDRESS or NEIGHBORHOOD	PHONE	EMAIL	AGENCY/ORGANIZATION
Linda Saltsgaver	204 E. South St. #2052 Orl	407-252-9034	lindsaltsgaver@aol.com (lindsaltsgaver@aol.com	- Private
WALTER SESSIONS	2111 Hoffner Ave Belle Isle		walter.sessions@gmail	
Ken Ashlin	20. N. Orange Orl.	407-513-1313	kenneth.ashlin@charter.com	News 13
Catherine Ruane	860 N. ORANGE AV #240 32801	407 648 9168	CATHRUANE@GMAIL.com	
Tim Prince	1513 S. Mills Ave.	407-760-6339	TLPRINCE1@earthlink.net	
Chris Cairns	400 S Orange Ave	407-246-2703	Christopher.cairns@orlando.gov	Orlando
Eric Trum	32 N. GLENWOOD AVE	407-569-8993	EMTRUM@GMAIL.com	
Luis felipe Gutierrez	4221 IVEYGLEN AVE	407-729-2124	LUISFGUTIERREZ@OUTLOOK.com	Orlando
Tony Coullias	32 N Glenwood Ave	352-514-4641	TCoullias@gmail.com	
Erik Vasquez	Colonialtown/Mills 50		erikjvasquez@gmail.com	
Megan McGinley	826 garden plaza	305-215-5397	megantmcginley@gmail.	citizen
Dave Carriere	Colonialtown North	860-4632894	da.carriere1@gmail.com	private

BIKE ORLANDO
OPEN HOUSE

October 3, 2019
First United Methodist Church Orlando
Please Sign In

NAME	ADDRESS or NEIGHBORHOOD	PHONE	EMAIL	AGENCY/ORGANIZATION
Jeff Collignon	Winterpark	813 957 2127	J.Collignon@HFUW.org	Heart of Florida UW
Barry Clay	142E Jackson St Orlando, FL 32801	407-375-1528	barry@firstchurchorlando.org	First United Methodist Church of Orlando
Lora Gilbert	3710 Neptune Orlando FL		loramsrd@gmail.com	First Church
ANGELA COLLIAS	32 N GLENWOOD AVE ORLANDO, FL 32803	352-870-6226	angelacollias@gmail.com	
Kayla Mitchell	1203 Edmundshire Ln Orlando FL 32806	407-694-5563	kaybmitch@gmail.com	
LOGAN LAMPHERE	118 N Thornton Ave 32801	605-490-0732	LLAMPHER@HOTMAIL.com	Downtown Community Paper

BIKE ORLANDO

OPEN HOUSE

October 3, 2019
First United Methodist Church Orlando

Please Sign In

NAME	ADDRESS or NEIGHBORHOOD	PHONE	EMAIL	AGENCY/ORGANIZATION
Mira Tanna	4205 Arbor Oaks Rosemont		mira.tanna@orlando.gov	City of Orlando
MATT BARCLAY	~~[illegible]~~ HUNTER'S CREEK			
DANNY SAAVEDRA	COLONIALTOWN SOUTH		dsaavy16@gmail.com	MERGEYOURDATA.COM
Scott Stewart	Doner Shores		ericscottstewart@gmail.com	

BIKE ORLANDO

OPEN HOUSE

October 3, 2019
First United Methodist Church Orlando

Please Sign In

NAME	ADDRESS or NEIGHBORHOOD	PHONE	EMAIL	AGENCY/ORGANIZATION
Kris Kozub	322 E. Central Blvd #1702	808-276-1520	kpkozub@gmail.com	
Joseph Fiorello	206 E. South St	407 484 4034	JosephAFiorello@gmail.com	
Mike Harper	2121 Anderson Place	407 325 0009	MHarper68@gmail.com	
Jorge Barrios	Downtown	407 373 1123	jbarrios@kittelson.com	
Alex Schmitt	Bel Air	407 683 0626	Schmmittty@gmail.com	
Mark Lyle	548 S. Hyer Ave 32801	407-421-1727	mglmie@earthlink.net	
Laura Sikonia	Thornton Park	440-725-7082	lkohlersikonia@gmail.com	
Aaron Powell	College Park	407-222-0167	aaroncpowell@yahoo.com	
~~Scott~~				
Matt Hyland	Goldenrod	407.925.3340	Matt.hyland97@gmail.com	
Michael Ferguson	Colonialtown North	352-575-4673	MAF9210@GMAIL.COM	
Hunter Bonar	Colonial town South	(407) 619-7649	hebonar@gmail.com	

Appendix B

BIKE ORLANDO
OPEN HOUSE

CITY OF ORLANDO
TRANSPORTATION

Learn more about three of Orlando's ongoing bike projects

Thursday, October 3, 5:30 – 7 p.m.

First United Methodist Church,
142 East Jackson Street, Orlando, FL 32801

1

BICYCLE BELTWAY

Reviewing the design plans for the following bicycle beltway trail gap projects: Downtown Connector Trail, Orlando Urban Trail Gap, Airport Gap, Gertrude's Walk Phase 4

2

DOWNTOWN GAP STUDY

Planning for a new bikeway to connect the Downtown Connector Trail to Gertrude's Walk through the heart of Downtown Orlando

3

ORLANDO BIKE PLAN UPDATE

Updating the city's bicycle plan to guide future efforts to expand and improve the safety and connectivity of Orlando's bicycle network





For more info visit: orlando.gov/bikebeltway • orlando.gov/bikeplan

CITY OF ORLANDO
TRANSPORTATION

400 South Orange Avenue, Orlando, FL 32801

PLACE
STAMP
HERE



BIKE ORLANDO OPEN HOUSE

First United Methodist Church Orlando **October 3, 2019**

PUBLIC COMMENT FORM

Name_____

Address:_____

City:_____ State:_____ Zip:_____

Email:_____

Tell us what you think about the bike projects. Please specify which project(s) you are referencing.

Project Name(s): _____

COMMENTS:

_____

_____

_____

_____

_____

_____

_____

_____

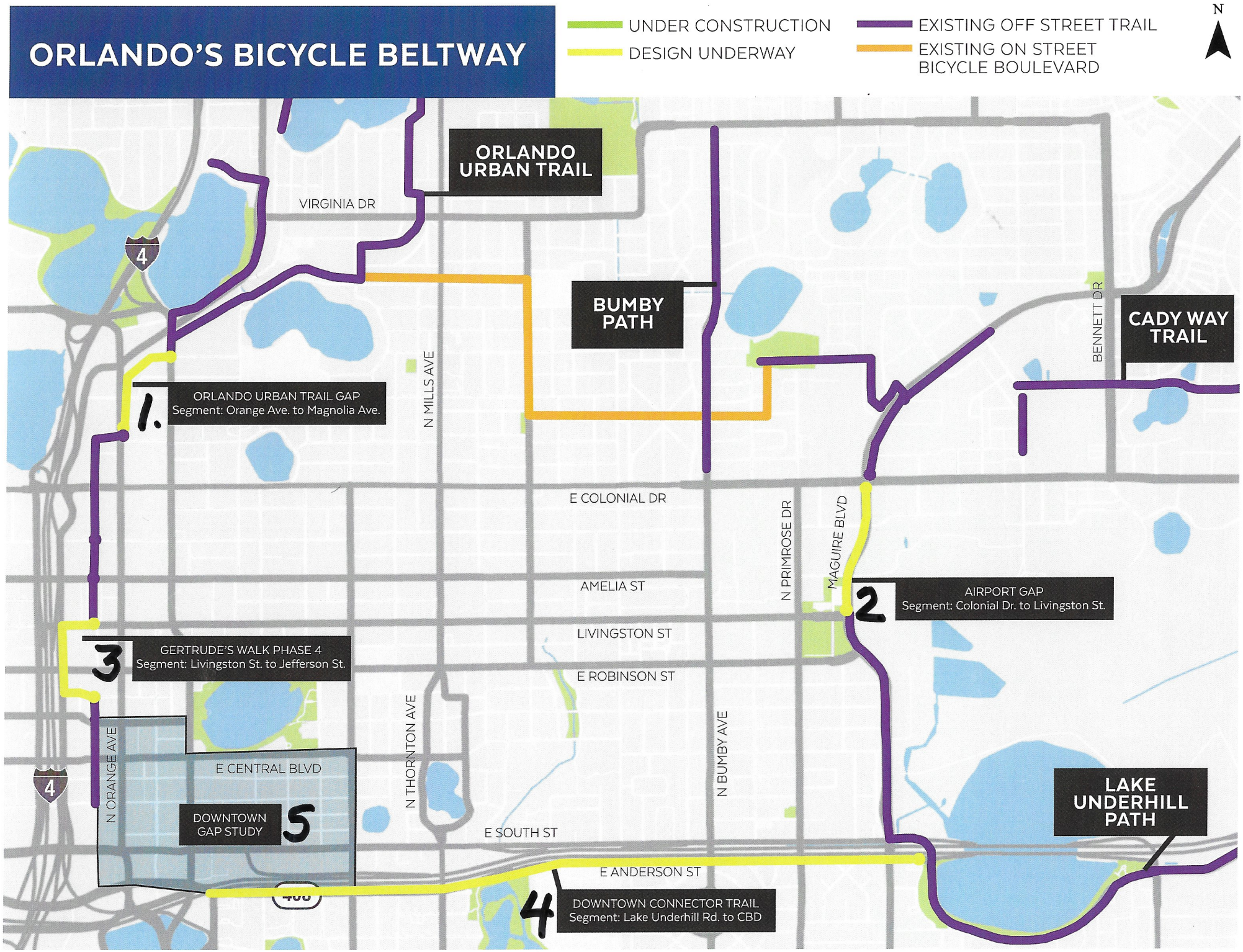
_____

_____

Please send comments or questions via email or U.S. Mail to:

Mr. Ian Sikonia, Project Manager
400 South Orange Avenue
Orlando, FL 32801
Ian.Sikonia@cityoforlando.net

ORLANDO'S BICYCLE BELTWAY



Appendix C

BIKE ORLANDO OPEN HOUSE

STATIONS

1. Orlando Urban Trail Gap
2. Airport Gap
3. Gertrude's Walk Phase IV
4. Downtown Connector Trail
5. Downtown Gap Study
6. Bicycle Plan Update



Orlando Urban Trail Gap



Airport Gap



Gertrude's Walk Phase IV



Downtown Connector Trail



Downtown Gap Study



Bicycle Plan Update

Appendix D

BIKE ORLANDO OPEN HOUSE

First United Methodist Church Orlando — **October 3, 2019**

PUBLIC COMMENT FORM

Name: Walter Sessions

Address: 2111 Hoffner Ave

City: Belle Isle State: FL Zip: 32809

Email: WALTER.SESSIONS@GMAIL.com

Tell us what you think about the bike projects. Please specify which project(s) you are referencing.

Project Name(s):

COMMENTS:

GAP STUDY OPTS: Not clear to me how Eola drive will be handles the brick; will it be like Livingston or off road

Gertrude's WALK P4: Glad this is being connected, but it looks slower than just going to Orange.

CADY WAY: Area by Fashion Sqr MALL still blocked by apartment fencing.

South of 408: Orange Bike lane disappears and roads // to Delaney are their own brick/cracked nightmares

Keep up the good work! You are saving lives!

Please send comments or questions via email or U.S. Mail to:

Mr. Ian Sikonia, Project Manager
400 South Orange Avenue
Orlando, FL 32801
Ian.Sikonia@cityoforlando.net

BIKE ORLANDO OPEN HOUSE

First United Methodist Church Orlando — **October 3, 2019**

PUBLIC COMMENT FORM

Name: Alex Schmitt

Address: 1701 Curry Ford Rd

City: Orlando State: FL Zip: 32806

Email: Schmmitty@gmail.com

Tell us what you think about the bike projects. Please specify which project(s) you are referencing.

Project Name(s): _____

COMMENTS:

Airport gap - maintain old ~~rd~~ trail
OUT gap - seperate bike lanes | way on each side of traffic is safer, intersection tables are good idea for all the bike trails
prioritize safety over traffic reduction

Please send comments or questions via email or U.S. Mail to:

Mr. Ian Sikonia, Project Manager
400 South Orange Avenue
Orlando, FL 32801
Ian.Sikonia@cityoforlando.net

BIKE ORLANDO OPEN HOUSE

First United Methodist Church Orlando — **October 3, 2019**

PUBLIC COMMENT FORM

Name: Scott Stewart

Address: 1203 Edmundshire Ln

City: Orlando State: FL Zip: 32806

Email: ericscottstewart@gmail.com

Tell us what you think about the bike projects. Please specify which project(s) you are referencing.

Project Name(s): Downtown Connector, Gap Study + Overall Beltway

COMMENTS:

I fully support these projects & look forward to being able to bike all around downtown Orlando. I hope to one day be able to commute to work via bike & for my daughter to have safe, separated bicycle facilities to use in her everyday life. Thank you & keep up the good work!

Please send comments or questions via email or U.S. Mail to:

Mr. Ian Sikonia, Project Manager
400 South Orange Avenue
Orlando, FL 32801
Ian.Sikonia@cityoforlando.net

BIKE ORLANDO OPEN HOUSE

First United Methodist Church Orlando — **October 3, 2019**

PUBLIC COMMENT FORM

Name: Danny Saavedra

Address: 541 Meridale Ave

City: Orlando State: FL Zip: 32803

Email: dsaavy16@gmail.com

Tell us what you think about the bike projects. Please specify which project(s) you are referencing.

Project Name(s): N/A

COMMENTS:

All projects are exciting for us and much needed. Separated bike lanes and connected bike infrastucture would allow us to get rid of our cars and utilize bikes for all transportation. At the current moment we don't bike too often because drivers are careless, aggressive, or not paying attention to cyclists.

Please send comments or questions via email or U.S. Mail to:

Mr. Ian Sikonia, Project Manager
400 South Orange Avenue
Orlando, FL 32801
Ian.Sikonia@cityoforlando.net

BIKE ORLANDO OPEN HOUSE

First United Methodist Church Orlando — **October 3, 2019**

PUBLIC COMMENT FORM

Name: Mira Tanna

Address: 4205 Arbor Oaks Ct

City: Orlando State: FL Zip: 32808

Email: miravtanna@yahoo.com

Tell us what you think about the bike projects. Please specify which project(s) you are referencing.

Project Name(s): Proposed Bikeway Map

COMMENTS:

I'd like to see a bike lane along 441 (OBT) connecting Rosemont safely to College Park, Padgett District and Downtown. I'd also like to see some safety improvements around Lake Orlando which is a great bike trail but I've been run off the road at roundabouts before.

Thanks!

Please send comments or questions via email or U.S. Mail to:

Mr. Ian Sikonia, Project Manager
400 South Orange Avenue
Orlando, FL 32801
Ian.Sikonia@cityoforlando.net

BIKE ORLANDO OPEN HOUSE

First United Methodist Church Orlando — **October 3, 2019**

PUBLIC COMMENT FORM

Name: Mark Line

Address: 548 S. Hyer Ave

City: Orl State: FL Zip: 32801

Email: mgline@earthlink.net

Tell us what you think about the bike projects. Please specify which project(s) you are referencing.

Project Name(s): Bike Trails

COMMENTS:

Negotiate with the Ace Cafe about right of way behind their building. They could access their outside area to attract business.

Why go thru the expense of cross town Bike Paths on Pine or Church when Robinson has park space for bike paths?

Stay south of downtown to extend Anderson to Gertrudes Trail.

Please send comments or questions via email or U.S. Mail to:

Mr. Ian Sikonia, Project Manager
400 South Orange Avenue
Orlando, FL 32801
Ian.Sikonia@cityoforlando.net

BIKE ORLANDO OPEN HOUSE

First United Methodist Church Orlando — **October 3, 2019**

PUBLIC COMMENT FORM

Name: Linda Saltsgaver

Address: 204 E. South St. #202

City: Orlando State: FL Zip: 32801

Email: lindsaltsgaver@aol.com

Tell us what you think about the bike projects. Please specify which project(s) you are referencing.

Project Name(s): _____

COMMENTS:

I ride daily in Orl. Concerned about East/west - North/South routes w/ smooth pavement and little to no traffic. I appreciate the City's dedication to a progressive program which promotes health, and sustainability.

Thank you.

Please send comments or questions via email or U.S. Mail to:

Mr. Ian Sikonia, Project Manager
400 South Orange Avenue
Orlando, FL 32801
Ian.Sikonia@cityoforlando.net

BIKE ORLANDO OPEN HOUSE

First United Methodist Church Orlando — **October 3, 2019**

PUBLIC COMMENT FORM

Name: Tim Prince

Address: 1573 S. Mills Ave.

City: Orlando State: FL Zip: 32806

Email: TLPRINCE1@earthlink.net

Tell us what you think about the bike projects. Please specify which project(s) you are referencing.

Project Name(s): Bike Plan Update

COMMENTS:

I love that you are making the downtown core more bike friendly. My main concern is that there is no bike lane in a logical place to make more bike friendly and less dangerous: the stretch of Orange Avenue from Pineloch Street to Lake Lucerne.

Thank you for this Open House!

Please send comments or questions via email or U.S. Mail to:

Mr. Ian Sikonia, Project Manager
400 South Orange Avenue
Orlando, FL 32801
Ian.Sikonia@cityoforlando.net

Appendix E: Safety Analysis

To: Ian Sikonia, City of Orlando
From: Jamie Krzeminski & Jenn Rhodes, HDR
Date: June 10, 2019
Re: Orlando Bike Plan Update – Bicycle Safety Analysis

Introduction

A critical component to the Orlando Bike Plan Update is to address existing safety concerns, as shown in the Plan's Vision Statement, as follows:

> *"In the City of Orlando, riding a bicycle is a **safe** and **comfortable** experience for residents and visitors of all **ages**, **abilities**, and **backgrounds**. Citizens consider bicycling a **practical travel choice** enabled by a highly **connected**, **convenient**, and **low-stress** bikeway network contributes to **quality of life** throughout the City."*

A bicycle crash analysis completed as part of the Plan identified the most common bicycle crash types and key locations within the City of Orlando, as well as specific countermeasures to help mitigate these particular crash types and improve the safety of the City's bicycle network. The crash database developed for the City's Vision Zero project was obtained and used for this analysis. As Noted in the Vision Zero Orlando Risk Based Analysis report, crash data was retrieved from two crash databases: Signal Four Analytics hosted by the GeoPlan Center at the University of Florida, and the State Safety Office Geographic Information System (SSOBis) hosted by the FDOT State Safety Office. The data represents a blended dataset from the two sources for years 2012 to 2017, with overlapping records deferring to the SSOGis geo-location. This dataset contains a total of 795 recorded bicycle crashes within the City boundaries, including 9 fatalities, 75 incapacitating injury crashes, 362 non-incapacitating injury crashes, 237 possible injury crashes, and 112 non-injury crashes.

One notable difference in the crash analysis conducted for the Bike Plan Update and the Vision Zero plan is that Vision Zero is focused on severe injury crashes and fatalities, whereas the Bike Plan Update reviewed all bike-related crashes, including non-injury, non-incapacitating, and possible injury crashes.

Bicycle Crash Types and Countermeasures

Bicycle crash typing is based on the Federal Highway Administration (FHWA) Pedestrian & Bicycle Crash Analysis Tool (PBCAT). The specific crash type is based on information such as the location, traffic control, and initial approach and position of the bicyclist with respect to the roadway prior to the crash. This is typically determined based on the crash report narrative and diagram. PBCAT recognizes 79 bicycle crash types categorized into 21 groups. Each specific crash type is associated with potential countermeasures that can help to mitigate that specific type of crash. Countermeasures and representative case studies are available via the BIKESAFE application and website developed by FHWA. The benefit of crash typing is that recommended safety improvements can be based on a thorough understanding of where, how, and why crashes happened, therefore provide specific treatments that can be implemented to address them.

The five most common bicycle crash types among all bicycle crashes citywide from 2012 to 2017 are summarized in Table 1. Each specific crash type also lists several potential countermeasures that could help mitigate that crash type.

The top five most common crash types account for almost half of all bicycle crashes in the City of Orlando. Further the top four crash types, representing nearly 40 percent of all bicycle crashes, were the fault of the motorist. As shown in Figure 1, motorists were at fault in 62 percent of bicycle crashes citywide during the analysis period, with bicyclists at fault in 25 percent of the crashes.

Figure 1| Bicycle Crashes by Fault

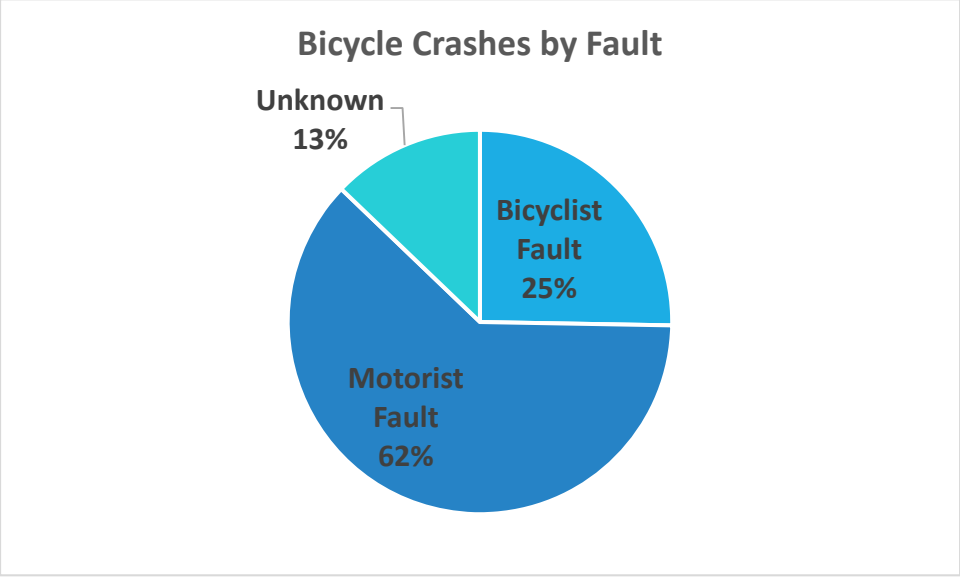
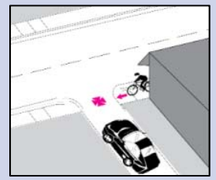
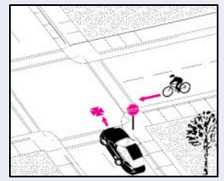
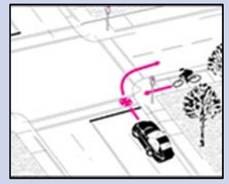
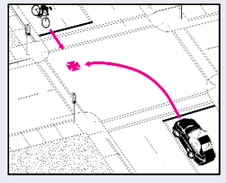
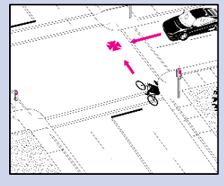


Table 1| Five Most Common Bicycle Crash Types in City of Orlando (2012-2017)

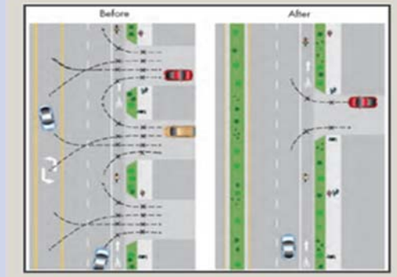
RANKING	CRASH TYPE	# OF CRASHES	% OF TOTAL CRASHES	ILLUSTRATION	COUNTERMEASURES
1	Motorist Drive-out – Commercial Driveway/Alley	107	13.5%		• Driveway Improvements • Sight Distance Improvements • Path / Intersection Improvements • Sign Improvements
2	Motorist Drive-Out – Sign-Controlled Intersection	103	13.0%		• Curb Radii Revisions • Sight Distance Improvements • Path / Intersection Improvements • Visual Narrowing • Sign Improvements
3	Motorist Drive-Out – Right Turn on Red	50	6.3%		• Turning Restrictions • Curb Radii Revisions • Sight Distance Improvements • Roundabouts
4	Motorist Left Turn – Opposite Direction	46	5.8%		• Cycle Track • Intersection Markings • Median / Crossing Island • Turning Restrictions • Roundabout
5	Bicyclist Ride-Through – Signalized Intersection	44	5.5%		• Lighting Improvements • Intersection Markings • Roundabout • Bicycle Signal Heads • Bike-Activated Signal
Total		350	44.1%		

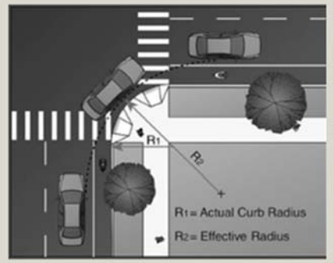
Source: City of Orlando Vision Zero crash database (Signal Four Analytics and SSOGis)

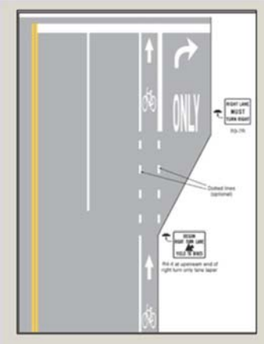
The top three most common crash types are largely the result of drivers pulling out in front of bicyclists riding on the sidewalk, crosswalk, or driveway in the opposite direction of traffic. The Vision Zero report noted that more nearly 46 percent of all bicycle crashes occurred at unsignalized intersections. Of those, more than 52 percent occurred with the cyclist riding on a sidewalk, crosswalk, or driveway, and in more than 70 percent of those crashes, the bicyclist was riding against the flow of traffic. Similarly about 42 percent of bicycle crashes were at signalized intersections, with 61 percent having the bicyclist on the sidewalk and riding in the opposite direction of traffic 62 percent of the time. Combined, instances of bicyclist hit at intersections while riding on the sidewalk in the opposite direction of traffic accounts for approximately one-third of all bicycle crashes.

Table 2 summarizes potential engineering countermeasures associated with the top five most common crash types in the City, their purpose and benefits, and provides examples and images. These countermeasures range from signing and marking changes, to physical and geometric improvements at intersections and driveways, to signal timing and traffic control type modifications.

Table 2| Countermeasures and Examples Associated with the Five Most Common Bicycle Crash Types

COUNTERMEASURE	DESCRIPTION	PURPOSE	EXAMPLES / RECOMMENDATIONS	APPLICABLE CRASH TYPE	IMAGES
Driveway Improvements	Every driveway and street connection is a potential conflict point among bicyclists, pedestrians, and motorists. Managing important aspects of both side streets and driveways (i.e. spacing, access, directional flow) protects users traveling along corridor. Through management of the number, spacing, access, and directional flow of driveway and side street connections, those traveling along the corridor are protected from conflict with those entering or leaving the corridor.	Reduces the number of conflict points among bicyclists and motorists; slows speed of motorists entering /exiting roadway; reduces bicycle fall or turning error	1. Smaller driveway radii of 15 to 20 feet 2. Closing (consolidating) driveways 3. Converting driveways to right-in-right-out 4. Implementation of stop bars, signs, and other measures	• Motorist Drive-out – Commercial Driveway / Alley	 Adding medians and consolidating driveways to manage access. Illustration by Michele Weisbart, Model Design Manual for Living Streets
Path Intersection Improvements	Careful planning and construction must be required to maximize safety at intersections where crossings must occur. Since motorists are not expecting bicyclists from both directions, they may not look for them. Safe and convenient crossings must be present to prevent impacts to bicyclists due to hazards at intersections and driveways.	Maximizes safety of path users; guides path users to safety; minimizes crossing delays for path users, improves sight while reducing the crossing distance; alerts drivers and improves motorist expectations for bicyclists	1. Stop-Controlled Approach 2. Path Transitions 3. Pavement Markings 4. Warning/Regulatory Signs	• Motorist Drive-out – Commercial Driveway / Alley • Motorist Drive-out – Sign-Controlled Intersection	 **Boulder, Colorado** The two-way separated facility illustrates minimizing exposure to conflicts by managing access with a right-in, right out configuration and keeping the crossings short. This crossing also uses small corner radii to keep speeds slow at the conflict points, and signage and markings to communicate right-of-way priority.
Sign Improvements	Signs let bicyclists and motorists know what to expect. This provided information can improve road safety as it increases awareness. These signs are typically placed along roads with significant bicycle traffic, or places with relatively hazardous conditions for riding. Wayfinding signs provide information about direction, destinations, and distance to help bicyclists determine best routes.	Keeps space clear for cyclists; provides useful information to inform motorists to be mindful of bicyclists; reduces hazardous conditions in narrow segments of roadway; helps bicyclists navigate roadway and determine best route	1. Two-Way Crossing Signs 2. STOP / YIELD Signs 3. BIKE MAY USE FULL LANE Signs	• Motorist Drive-out – Commercial Driveway / Alley • Motorist Drive-out – Sign-Controlled Intersection • Motorist Drive-out – Right Turn on Red	

COUNTERMEASURE	DESCRIPTION	PURPOSE	EXAMPLES / RECOMMENDATIONS	APPLICABLE CRASH TYPE	IMAGES
Curb Radii Revisions	Motor vehicles that turn at high rates of speed can pose problems for bicyclists. Through careful design of the curb radii and using the effective radius rather than the actual radius, efficient designs are constructed.	Reduces problems for bicyclists and pedestrians posed by vehicles turning at high speed rates while accommodating design vehicle turn radius; motorist awareness for right-turning bicyclists	1. Effective Radius of Design Vehicle 2. 90-Degree Intersection Corners 3. Tight Curb Radii	• Motorist Drive-out – Sign-Controlled Intersection • Motorist Drive-out – Right Turn on Red	 Illustration of actual, and effective, curb radii. Source: *Institute of Transportation Engineers*
Sight Distance Improvements	It is vital that adequate site distance is provided for users to ensure safe bicycling. Adequate sight distance provides bicyclists with vision of the movements of motor vehicles and vice versa. Keeping streets and intersections clear improves the line of sight for all traffic modes.	Allows bicyclists and motorists to see movements of each other; increases awareness and exposure of bicyclists / pedestrians crossing; prevents parking too close to path	1. Remove a Parking Space 2. Curb Extensions 3. Remove Signs / Landscaping 4. Provide Appropriate Signs / Landscaping 5. Realign Skewed Intersections 6. Keep Intersection Clear	• Motorist Drive-out – Commercial Driveway / Alley • Motorist Drive-out – Sign-Controlled Intersection • Motorist Drive-out – Right Turn on Red	 Landscaping causing site distance challenges. http://www.pedbikeimages.org – Libby Thomas
Visual Narrowing	"Traffic calming" technique which suggests motorists reduce speed due to the visual perception of a narrow, multi-use roadway. These traffic-calming techniques combined with designs creating a visual perception of a narrow roadway improves attentiveness	Lowers speed of vehicles, enhances functional separation of roadway, increases motorist attentiveness	1. Special / Contrasting Paving 2. Roadway Markings 3. Street Furniture 4. Striping Bike Lanes 5. Street Lighting 6. Landscaping	• Motorist Drive-out – Sign-Controlled Intersection	 This example of public art in Portland, Oregon, helps visually narrow the roadway. http://www.pedbikeimages.org – Andy Hamilton

COUNTERMEASURE	DESCRIPTION	PURPOSE	EXAMPLES / RECOMMENDATIONS	APPLICABLE CRASH TYPE	IMAGES
Bicycle Signal Heads	Intersection signal used as an additional traffic-control device. Considered an additional traffic-control device, bicycle signal heads provide guidance and right-of-way control in specific circumstances. The three-lens signal head is used at locations where signal phases with pedestrians and bicycles are the same. An interim approval by the Federal Highway Administration (FHWA) has issued an optional use of bicycle signal heads with green, yellow, and red. These should be considered at intersections with high bicycle volumes and intersections with bicycle-specific movements	Provides guidance and right-of-way control; prevents conflicting vehicle movements which interfere with bicyclists / pedestrians; provides long clearance intervals suitable for bicyclists' speeds; improves safety and operations; increased comfort for inexperienced bicyclists	1. Standard Lenses / Bicycle Symbol Lenses	• Bicyclist Ride Through – Signalized Intersection	 Bicycle signal indication with bicycle stenciled lenses. *Flickr – Oregon DOT*
Cycle Track ***(also known as Separated Bike Lane or Protected Bike Lane)***	Cycle Tracks typically run alongside a roadway and separate the bicyclists from motor vehicles and automobile traffic. Through separation from a physical barrier from motorists, bicyclist comfort increases, which may potentially attract new riders. These bike lanes may be one-way or two-way and raised at the street level. A cycle track is most effective in destinations with high concentration of destination on one side of the street.	Reduces collisions between bicyclists and motorists; reduces collisions with parked cars; prevent "doorings"; increases bicyclists' comfort; potential to attract new riders; reduces concentration on roadway	1. Curb Separation 2. Landscaped Buffer Separation 3. Bollards Separation	• Motorist Left Turn – Opposite Direction	 The two-way cycle track on 15th Street in Washington, D.C. *Photo by Graham Pitts.*
Intersection Markings	Most conflicts between bicyclists and motor vehicles occur at intersections / driveways. Pavement markings at intersections improve awareness and visibility of bicyclists at these points of conflict. Intersection marking treatments such as a bike box should be considered in locations with a significant amount of daily bicycle commuters. Dashed lines indicate proper path for bicyclists, and colored pavement indicate the weaving area for bicyclists and motor vehicles when right turning.	Creates a safe space facility for bicyclists separating them from motorists; increases awareness of safe behavior; improves visibility of bicyclists at intersections	1. Dashed Lines 2. Colored Pavement (Green) 3. Bike Box 4. Advanced Stop Bar	• Motorist Left Turn – Opposite Direction • Bicyclist Ride Through – Signalized Intersection	 Example of bicycle lane treatment at a right turn only lane. *Illustration from Manual on Uniform Traffic Control Devices*

COUNTERMEASURE	DESCRIPTION	PURPOSE	EXAMPLES / RECOMMENDATIONS	APPLICABLE CRASH TYPE	IMAGES
Median / Crossing Island	Medians and crossing islands provide refuge for bicyclists who intend to cross busy thoroughfare at unsignalized locations. These islands provide sufficient time for bicyclists to focus on one direction of travel at a time. A median helps to manage traffic and reduce the number of conflict areas. Restricting access to side streets help to reduce the cut-through of traffic. A refuge width of 10 feet is desirable in conjunction with center crossing islands where curb extensions may be built. Medians and crossing islands also provide space for street landscaping.	Manages traffic, reduces conflict points, reduces cut-through traffic, provides refuge for bicyclists / pedestrians crossing roadway, may help to reduce traffic speeds	1. Raised Median w/ Non-Conflicting Landscape 2. Diagonal Median Opening 3. Median Pocket Access 4. Midblock Crossing	• Motorist Left Turn – Opposite Direction	 Example of a diagonal median opening to break the crossing into two stages. http://www.pedbikeimages.org/ – Dan Burden
Turning Restrictions	Collisions between a bicycle and turning motor vehicle are one of the most frequent crash types. Motorists may fail to recognize a gap between oncoming motor vehicles and as a result fail to acknowledge an approaching bicyclist. The permissible Right Turn on Red (RTOR) introduced in the 1970s promotes fuel efficiency but also increases the risk of crashes between motor vehicles and bicyclists. By prohibiting RTOR where bicycle volumes and conflicts are high with right-turning vehicles, fewer collisions occur. These restrictions used in conjunction with low-speed and low-volume streets help create to bicycling cross-street preferences.	Reduces collisions between motorists and bicyclists; increases bicycle / pedestrian safety	1. NO TURN ON RED Signs 2. Digital blank-out signs that read NO TURN ON RED, and may also read YIELD TO PEDS during concurrent phasing 3. Restrict Turns w/ Diverters and Partial Diverters	• Motorist Drive-out – Right Turn on Red • Motorist Left Turn – Opposite Direction	 *Source: Manual on Uniform Traffic Control Devices*

COUNTERMEASURE	DESCRIPTION	PURPOSE	EXAMPLES / RECOMMENDATIONS	APPLICABLE CRASH TYPE	IMAGES
Roundabout	Circular, raised island at an intersection of two or more streets as an alternative to a signalized intersection. Roundabouts promote lower speeds, and a properly designed roundabout will have operating speeds that will allow bicyclists to navigate comfortably around the roundabout. These lower speeds enhance safety of all road users.	Reduces speed at intersections; reduces conflict areas; eliminates left turns and angle collisions; improves safety	1. Discontinued Bike Lane Approaching Roundabout 2. Yield Lines 3. Consider Ped / Bike Volumes 4. Bicycle Ramp to Sidewalk for Comfort	• Motorist Drive-out – Right Turn on Red • Motorist Left Turn – Opposite Direction • Bicyclist Ride Through – Signalized Intersection	 Example of a bicyclist sharing the lane through a single-lane roundabout http://www.pedbikeimages.org/ – Carl Sundstrom
Lighting Improvements	Illumination of the roadway improves visibility for nighttime bicyclists. Although majorities of crashes occur in the daylight, good illumination prevents the rise of collisions between motor vehicles and bicyclists during the nighttime. Improved lighting may reduce crashes that occur in less than optimal light conditions. Good lighting is also important to ensure the safety and personal security on roadways, bridges, tunnels, and shared-use paths. Illuminating the roadway surface and its surrounding areas optimizes visibility of bicyclists especially in locations with high number of bicyclists are to be expected.	Improves visibility for bicyclists at night; allows bicyclists to see surface conditions; illuminates intersections; illuminates underpasses and tunnels; enhances safety of roadway; improves ambience of areas during nighttime	1. Street Lighting Poles 2. Tunnel Lighting	• Bicyclist Ride Through – Signalized Intersection	 Lighting illuminates the roadway surface as well as other roadway users. http://www.pedbikeimages.org/ – Dan Burden
Bike-Activated Signal	Bike-activated signal detection helps to facilitate safe, comfortable, and convenient crossings at intersections. Bike-activated signal detections are either active or passive. Passive detection is preferred as it automatically detects the presence of the user, whereas active detection activates the signal phase through pushbutton. Loop detectors are the most common motor vehicle detection technology to service bicyclists.	Deters red light running; reduces unsafe behavior through reduction of delay; detects presence of users to activate signal; improves safety, comfort, and convenience of bicyclists; minimizes delay	1. Bike Symbol Placement 2. Detection Located at Conspicuous Locations 3. Advanced Bicycle Detection	• Bicyclist Ride Through – Signalized Intersection	 Example of pavement marking at traffic signal which shows bicycles where to stop to activate the signal. http://www.pedbikeimages.org/ – Marie Stake

Bicycle Crash Analysis

Using the Vision Zero crash database, the top ten intersections and roadway segments having the highest number of bicycle crashes over the analysis period were determined. Figure 2 presents a heat map that shows the areas of highest bicycle crash intensity within the City limits.

Figure 2| Bicycle Crash Intensive Areas

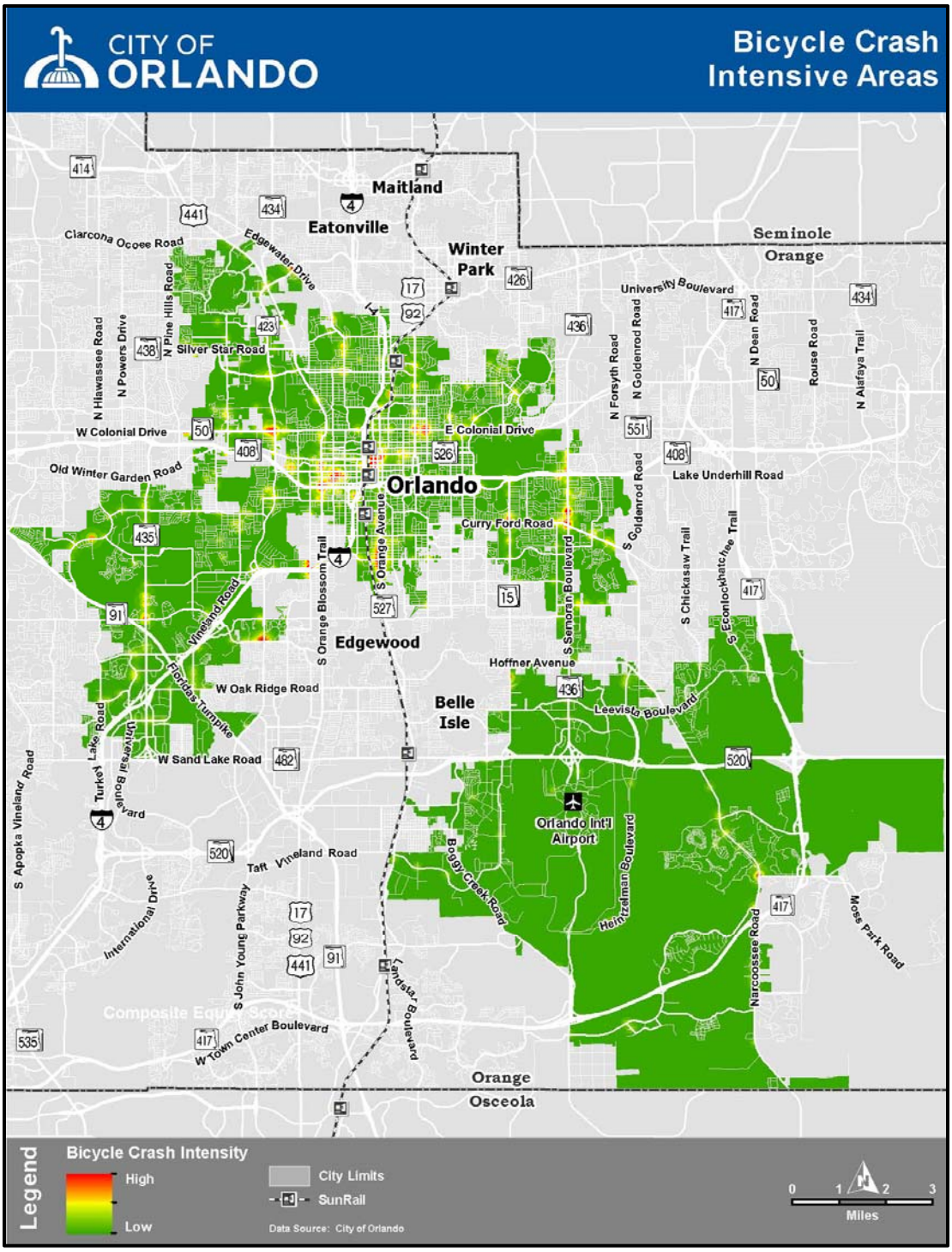


Figure 3 presents the specific intersections and discreet roadway segments having the highest number of bicycle crashes during the analysis period.

Figure 3| Bicycle Crash Intensive Segments and Intersections

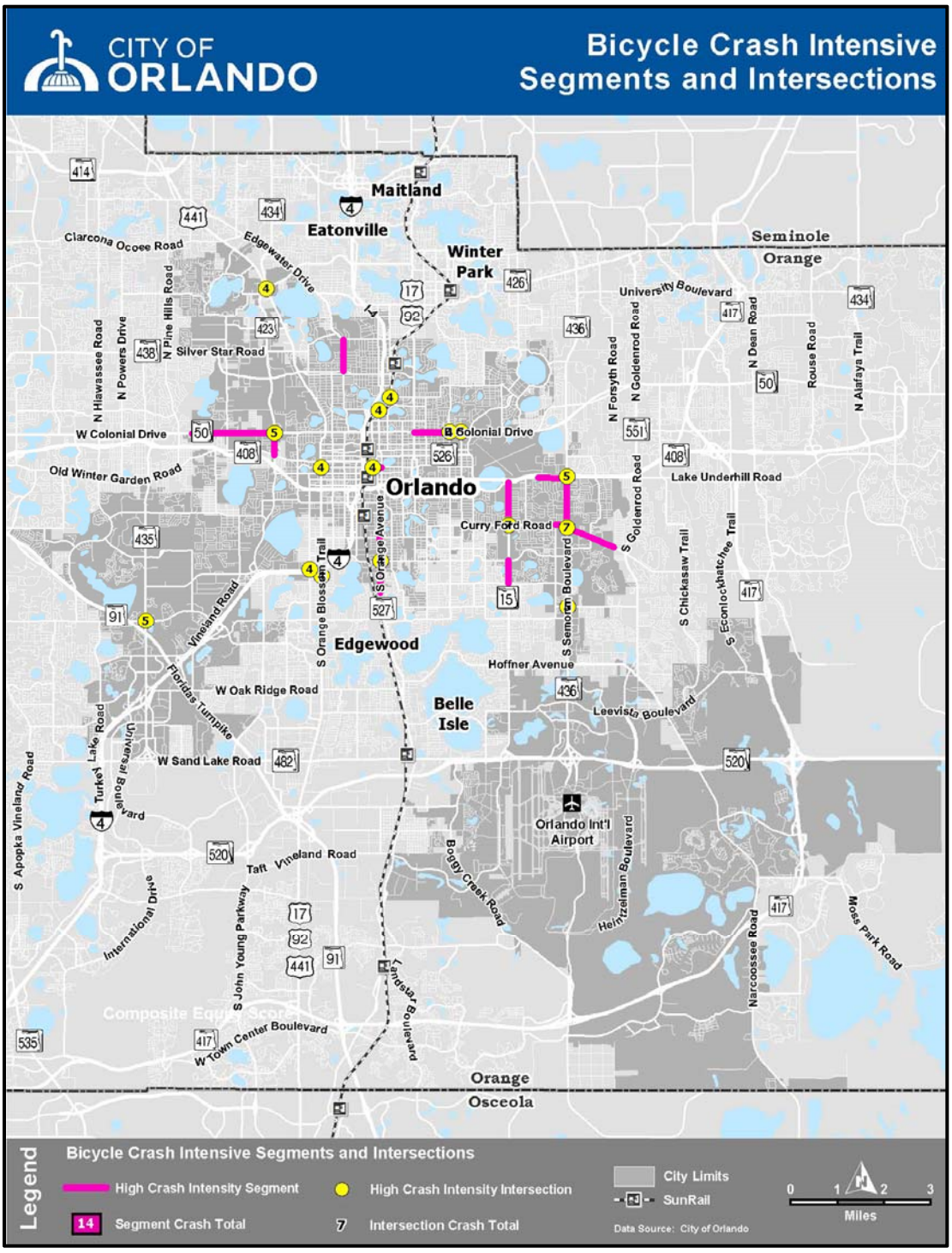


Table 3 summarizes the top crash segments by the total number of crashes.

Table 3| Orlando Top 10 Bicycle Crash Roadway Segments

RANK	STREET NAME	FROM STREET	TO STREET	TOTAL CRASHES
1	S Semoran Blvd	Curry Ford Rd	Lake Underhill Rd	24
2	S Orange Ave	Drennen Rd	E Michigan St	16
3	Conway Rd	Curry Ford Rd	Lake Underhill Rd	14
4	S Orange Ave	E Michigan St	E Kaley St	13
5	E Colonial Dr	N Primrose Dr	Maguire Blvd	11
6	N John Young Pkwy	Old Winter Garden Rd	W Colonial Dr	10
7	Curry Ford Rd	S Semoran Blvd	Colton Dr	9
	E Central Blvd	N Orange Ave	N Rosalind Ave	9
	E Colonial Dr	N Mills Ave	N Bumby Ave	9
	Edgewater Dr	W Smith St	W Par St	9
	W Colonial Dr	Mercy Dr	N John Young Pkwy	9

The segment with the most bicycle crashes was South Semoran Boulevard from Curry Ford Road to Lake Underhill Road with a total number of 24 crashes. Data of crash type, severity, lighting condition, and road surface condition was analyzed to differentiate the factors that may have contributed to the 24 crashes that occurred on this segment. Figure 4 through Figure 7 shows a visual representation for these conditions on this segment.

Figure 4| S Semoran Boulevard from Curry Ford Road to Lake Underhill Roadway Surface Conditions

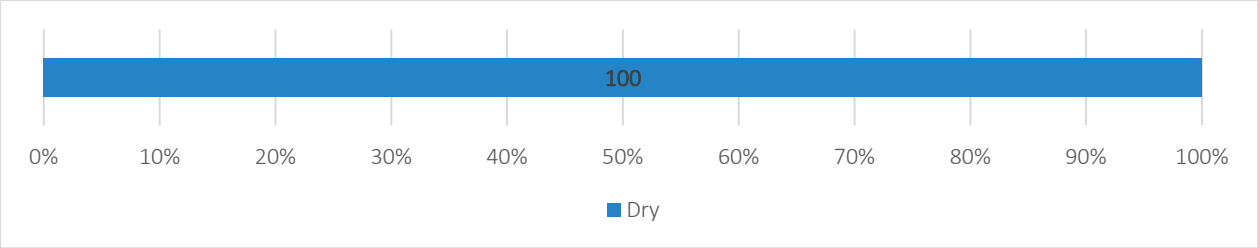


Figure 5| S Semoran Boulevard from Curry Ford Road to Lake Underhill Road Lighting Conditions

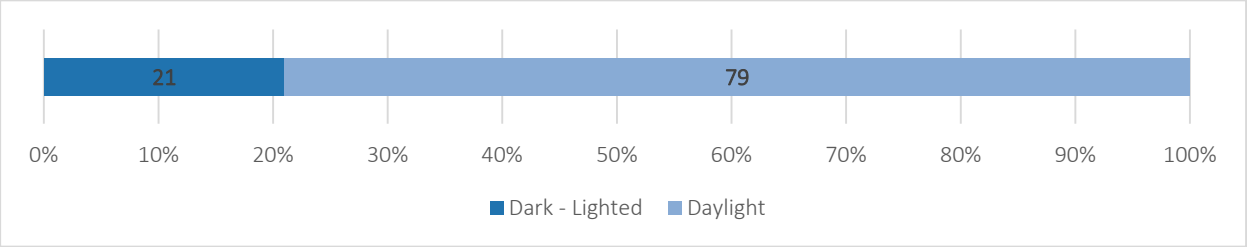


Figure 6| S Semoran Boulevard from Curry Ford Road to Lake Underhill Road Crash Severity

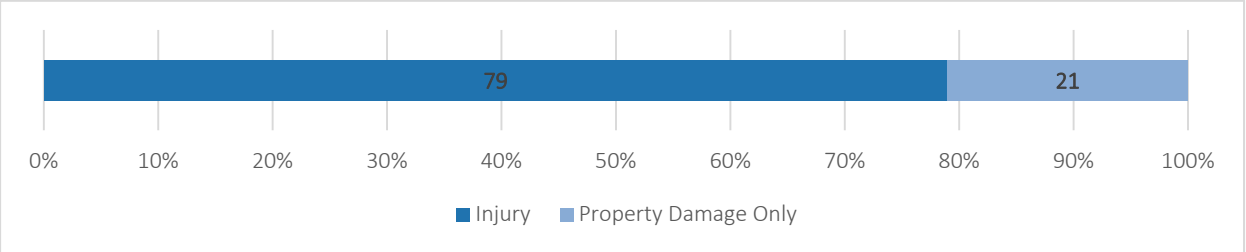
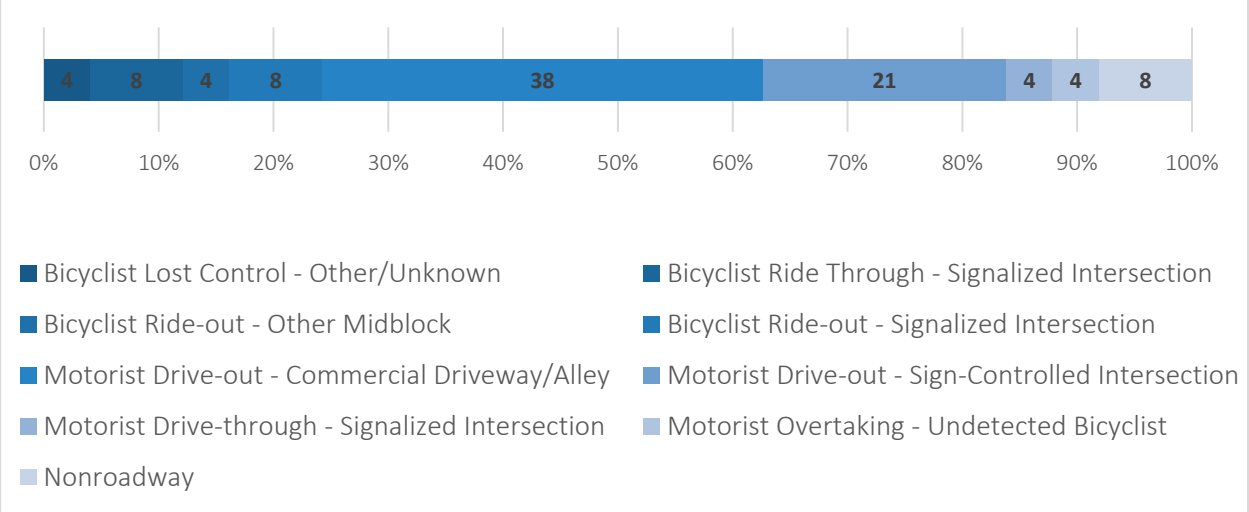


Figure 7| S Semoran Boulevard from Curry Ford Road to Lake Underhill Road Bicycle Crash Type



The data presented for this segment show that all 24 crashes happened when road surface conditions were dry. In addition, the vast majority of the crashes (79 percent) were during daylight. There were no fatalities involved, but most crashes involved injury (79 percent). In particular, the most prominent crash type citywide (Motorist Drive-out – Commercial Driveway/Alley) also represented the highest percentage (38 percent) of all crash types for this segment.

Table 4 summarizes the top crash intersections by the total number of crashes.

Table 4| Orlando Top 10 Bicycle Crash Intersections

RANK	STREET NAME	TOTAL CRASHES
1	Conway Rd @ Curry Ford Rd	7
	S Semoran Blvd @ Curry Ford Rd	7
3	E Colonial Dr @ N Primrose Dr	5
	S Semoran Blvd @ Lake Underhill Rd	5
	Conroy Rd @ S Kirkman Rd	5
	W Colonial Dr @ N John Young Pkwy	5
	S Semoran Blvd @ Pershing Ave	5
8	N Orange Ave @ N Magnolia Ave	4
	S Orange Blossom Trail @ EB I-4 Off-Ramp	4
	L.B. McLeod Rd @ S Rio Grande Ave	4
	N Orange Ave @ Virginia Dr	4
	E Central Blvd @ S Orange Ave	4
	E Colonial Dr @ N Bumby Ave	4
	E Michigan St @ S Orange Ave	4
	Lee Rd / N John Young Pkwy @ N Orange Blossom Trl	4
	W Central Blvd @ N Orange Blossom Trl	4

The two intersections with the highest number of crashes were Conway Road at Curry Ford Road and South Semoran Boulevard at Curry Ford Road. Similar to the crash segments, the crash type, severity, lighting condition, and road surface condition were analyzed to differentiate the factors that may have contributed to each crash, as shown in Figure 8 through Figure 15.

Figure 8| Conway Road at Curry Ford Roadway Surface Conditions

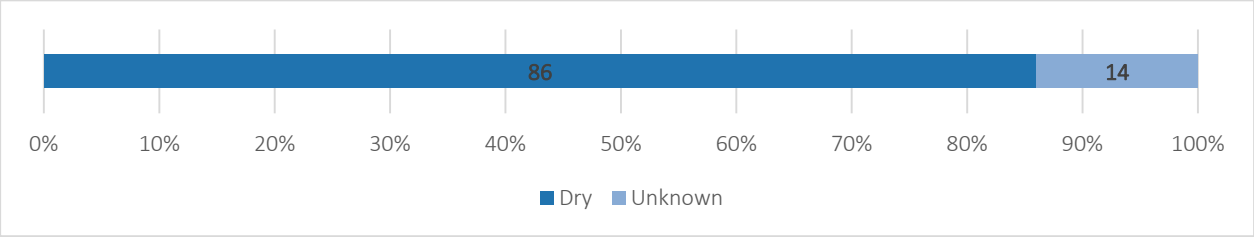


Figure 9| Conway Road at Curry Ford Road Lighting Conditions

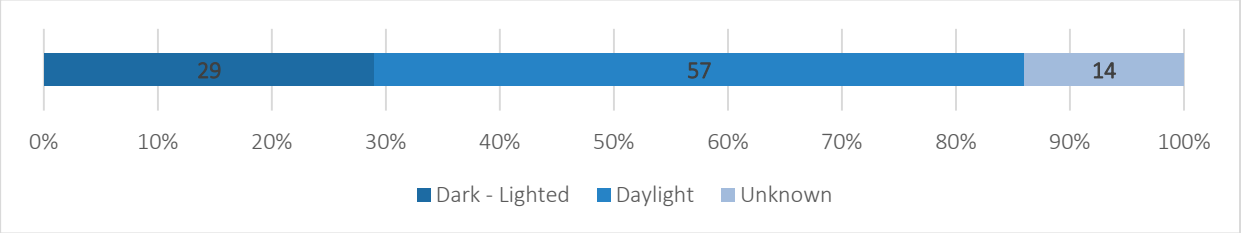


Figure 10| Conway Road at Curry Ford Road Crash Severity

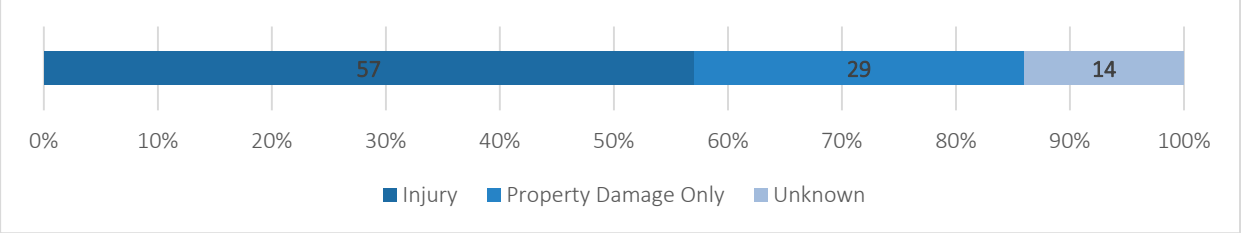


Figure 11| Conway Road at Curry Ford Road Bicycle Crash Type

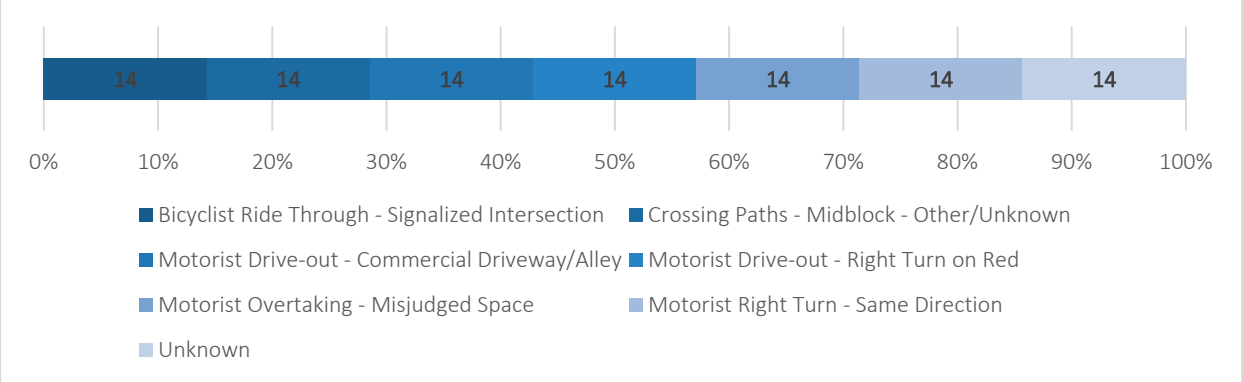


Figure 12| S Semoran Boulevard at Curry Ford Road Roadway Surface Conditions

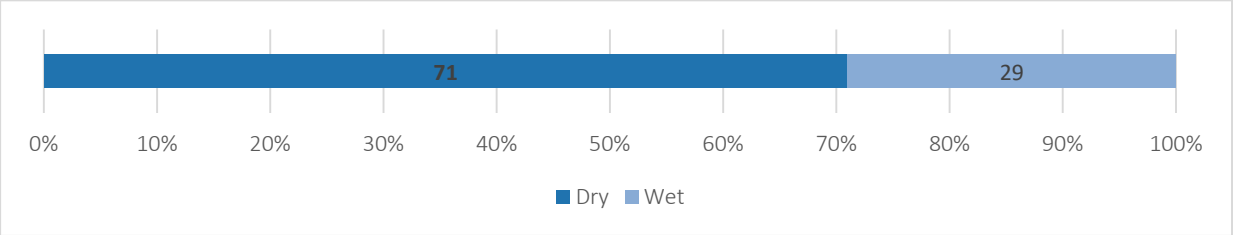


Figure 13| S Semoran Boulevard at Curry Ford Road Lighting Conditions

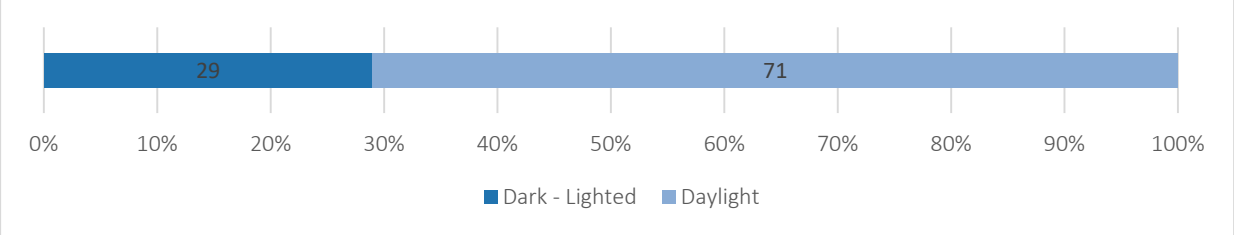


Figure 14| S Semoran Boulevard at Curry Ford Road Crash Severity

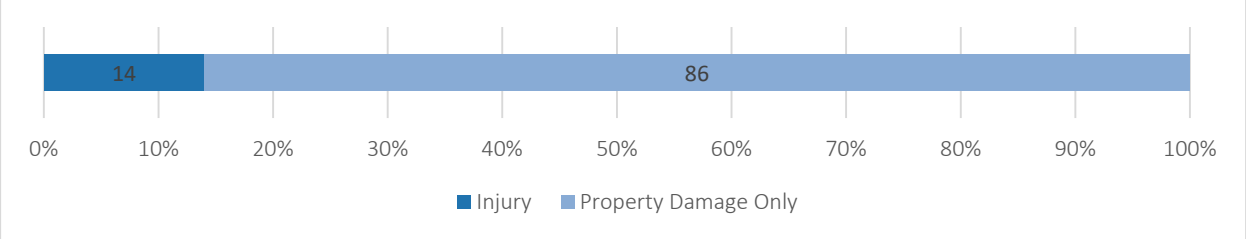
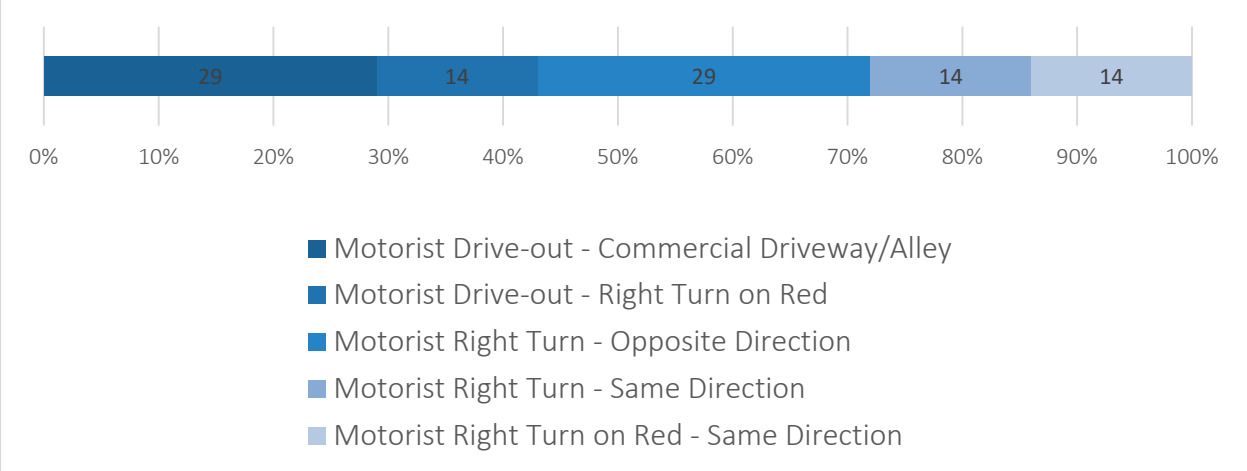


Figure 15| S Semoran Boulevard at Curry Ford Road Bicycle Crash Type



The data presented for the intersection of Conway Road at Curry Ford Road show that almost all crashes happened when road surface conditions were dry (86 percent). In addition, four out of the seven crashes (57 percent) were during daylight. There were no fatalities involved, but most crashes involved injury (57 percent). The most prominent crash type citywide (Motorist Drive-out – Commercial Driveway/Alley) had equal percent representation (14 percent) in comparison to the other crash types for this intersection.

The data presented for the intersection of South Semoran Boulevard at Curry Ford Road show that most crashes (71 percent) happened when road surface conditions were dry. In addition, the vast majority of the crashes (71 percent) were during daylight. There were no fatalities involved, but most crashes involved injury (86 percent). The most prominent crash type citywide (Motorist Drive-out – Commercial Driveway/Alley) also represented one of the highest percentage (29 percent) of all crash types for this intersection. The other crash type that resulted in the highest percent of crash type was "Motorist Right Turn – Opposite Direction," which did not rank on the list of most common crash types citywide as shown previously in Table 1.

The most evident difference between the two top crash intersections is that more injuries were involved for the intersection of Conway Road at Curry Ford Road compared to South Semoran Boulevard at Curry Ford Street (67 percent vs 14 percent). For both intersections, most crashes occurred when road conditions were dry and it was daylight.

Conclusions and Next Steps

This bicycle safety analysis and the resulting direction will support the City's Bicycle Plan Update, both in terms of general citywide strategies, as well as specific areas to target for improvements. Identifying the most common bicycle crash types in the City and the corresponding countermeasures can help to inform general engineering strategies to apply on projects citywide to target improvements in bicycle safety. The most common crash types should also direct resources related to educational messages. These may include messaging directed towards motorists with themes such as "always look to the right" (for drivers turning right from driveways or cross streets) and to bicyclists to be aware of roadside conflict points – both of which address the common crashes that occur with bicyclists riding on the sidewalk in the opposite direction of traffic. The roadway segments and intersections with the highest concentrations of bicycle crashes, in conjunction with the high injury corridors and intersections identified in the Vision Zero Action Plan, should be targeted for multimodal safety audits to identify specific safety improvements.

References

BIKESAFE: *Bicycle Safety Guide and Countermeasure Selection System*, www.pedbikesafe.org/bikesafe/countermeasures.cfm.

Vision Zero Orlando Action Plan.

Vision Zero Orlando Risk Based Analysis.

Appendix F: Cost Assumptions

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December 19, 2019

Mr. Jamie Krzeminski, PE, PTOE
Senior Professional Associate
HDR
315 E. Robinson Street, Suite 400
Orlando, FL 32801-1949

Reference: **2018 City of Orlando Bicycle Plan Update**
Preliminary Cost Estimates
Assumptions Memorandum

Dear Jamie:

AVCON, INC. (AVCON) is pleased to provide the attached cost estimates for various bicycle and multi-use facilities, including off street trails/separated bike lanes, buffered bike lanes, and on street bike boulevards. The estimates are separated into specific demonstration projects and generalized project costs. Some of the assumptions used to develop the estimates are provided below:

1. On Street Cycle Track - North Lane / Lake Orlando Parkway (Loop) On-Street Two-Way Separated Bike Lanes (Cost Per Mile)
    a. Milling and resurfacing provided on 1-in. mill and overlay. If the City desires more substantial rehabilitation of roadway, these costs will increase.
    b. No adjustment of roadway width or existing curb and gutter.
    c. Five (5) intersections per mile are anticipated.
    d. Four (4) curb cut ramps are anticipated to be replaced at each intersection at 2 SY per ramp.
    e. Four (4) wayfinding signs are anticipated per intersection with one (1) interim sign between each intersection.
    f. Existing sidewalks on both sides of the road are assumed to remain.
    g. Due to the presence of driveways and intersections, assume traffic separator (concrete – Type I, 3-ft. wide) over approximately 60% of the distance per mile, with the rest as at-grade, stamped/colored asphalt.

2. Off Street Cycle Track - Highland Avenue Concept Sidewalk Level One-Way Separated Bike Lanes
    a. No milling and resurfacing is anticipated.
    b. No adjustment of roadway width or existing curb and gutter.
    c. No driveways are assumed to be replaced.
    d. Five (5) intersections per mile are anticipated.
    e. Four (4) curb cut ramps are anticipated to be replaced at each intersection at 2 SY per ramp.
    f. Four (4) wayfinding signs are anticipated per intersection with one (1) interim sign between each intersection
    g. Existing sidewalks are assumed to predominately remain with only spot replacements required.
    h. Bicycle messages and arrow pavement markings to be included on Cycle Track.
    i. Raised speed tables to be included for side streets; no raised speed tables proposed for driveways.

3. Multi-Use Trail
    a. No milling and resurfacing is anticipated.
    b. No adjustment of roadway width or existing curb and gutter.
    c. Multi-Use Trail width is 12-ft.
    d. One (1) drainage structure / block / side of the street is anticipated to be added and / or adjusted.
    e. Five (5) intersections per mile are anticipated.
    f. Four (4) curb cut ramps are anticipated to be replaced at each intersection at 2 SY per ramp.
    g. Four (4) wayfinding signs and two (2) regulatory signs are anticipated per intersection with one (1) interim wayfinding sign between each intersection.
    h. Seventy (70) driveways per mile are required to be re-constructed to meet ADA requirements.
    i. Existing sidewalk on the side of multi-use trail to be removed.

4. Buffered Bike Lanes
    a. No milling and resurfacing is anticipated.
    b. No adjustment of roadway width or existing curb and gutter.
    c. Conflicting markings to be removed by hydro-blasting

5. College Park Bike Boulevard Wayfinding
    a. No milling and resurfacing is anticipated.
    b. No adjustment of roadway width or existing curb and gutter.
    c. Based on exhibit, doubling the number of signs to accommodate both directions of traffic.

A 10% contingency is included to account for project unknowns. An additional 10% is included for projected CEI costs. The estimate is in 2018 dollars. No inflation or cost escalation is included for future year construction. Please let us know if you have any questions or comments.

Sincerely,

AVCON, INC.



Clint Pletzer, P.E.
Civil Design Manager, Transportation

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City of Orlando Bike Plan Update
Preliminary Cost Estimates

On Street Cycle Track Cost Per Mile

North Lane / Lake Orlando Parkway (Loop) On-Street Two-Way Separated Bike Lanes

Pay Item	Description	Unit	Quantity	Unit Price	Total
101-1	MOBILIZATION	LS	1	$ 80,000.00	$ 80,000.00
102-1	MAINTENANCE OF TRAFFIC	LS	1	$ 60,000.00	$ 60,000.00
104-14	PREVENTION, CONTROL & ABATEMENT OF EROSION & WATER POLLUTION	LS	1	$ 40,000.00	$ 40,000.00
110-1-1	CLEARING & GRUBBING	LS	1	$ 10,000.00	$ 10,000.00
327-70-1	MILLING EXISTING ASPHALT PAVEMENT (1" AVG. DEPTH)	SY	18,800	$ 3.00	$ 56,400.00
337-7	ASPHALTIC CONC. FRICTION COURSE TRAFFIC C, (FC-9.5.5) (INCL. TACK COAT)	TN	1,100	$ 160.00	$ 176,000.00
520-5-11	TRAFFIC SEPARATOR CONCRETE-TYPE I, 3' WIDE	LF	3,168	$ 60.00	$ 190,080.00
522-2	CONCRETE SIDEWALK, 6"	SY	40	$100.00	$ 4,000.00
580-1-1	LANDSCAPE COMPLETE- SMALL PLANTS	LS	1	$ 50,000.00	$ 50,000.00
700-1-60	SINGLE POST SIGN, F&I GM, <12 SF	AS	30	$ 100.00	$ 3,000.00
706-1-1	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	EA	600	$ 6.00	$ 3,600.00
700-1-11	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, ISLAND NOSE	SF	100	$ 4.00	$ 400.00
710-90	PAINTED PAVEMENT MARKINGS, FINAL SURFACE	LS	1	$ 5,000.00	$ 5,000.00
711-11-111	THERMOPLASTIC, STANDARD, WHITE, SOLID, 6"	GM	2	$ 5,000.00	$ 10,000.00
711-11-125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24"	LF	100	$ 5.00	$ 500.00
711-11-160	THERMOPLASTIC, STD, WHITE, MESSAGE	EA	60	$ 140.00	$ 8,400.00
711-11-170	THERMOPLASTIC, STANDARD, WHITE, ARROW	EA	40	$ 75.00	$ 3,000.00
711-11-211	THERMOPLASTIC, STANDARD, YELLOW, SOLID, 6"	GM	2	$ 5,000.00	$ 10,000.00
711-14-X	THERMOPLASTIC, PREFORMED, GREEN, SOLID, 24"	LF	360	$ 20.00	$ 7,200.00
711-15-X	STAMPED ASPHALT	SF	6,336	$ 6.00	$ 38,016.00
				10% Contingency	$ 75,559.60
				10% CEI	$ 75,559.60
				TOTAL	$ 906,715.20

Notes: 1. Esimate based on Engineering Judgment in 2018$.

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City of Orlando Bike Plan Update
Preliminary Cost Estimates

Off Street Cycle Track Cost Per Mile

Highland Avenue Concept Sidewalk Level One-Way Separated Bike Lanes

Pay Item	Description	Unit	Quantity	Unit Price	Total
101-1	MOBILIZATION	LS	1	$ 70,000.00	$ 70,000.00
102-1	MAINTENANCE OF TRAFFIC	LS	1	$ 50,000.00	$ 50,000.00
104-14	PREVENTION, CONTROL & ABATEMENT OF EROSION & WATER POLLUTION	LS	1	$ 30,000.00	$ 30,000.00
110-1-1	CLEARING & GRUBBING	LS	1	$ 70,000.00	$ 70,000.00
160-4	TYPE B STABILIZATION (MIN. LBR 40) (12")	SY	5,900	$ 10.00	$ 59,000.00
285-702	OPTIONAL BASE GROUP 02	SY	5,900	$ 20.00	$ 118,000.00
337-7	ASPHALTIC CONC. FRICTION COURSE TRAFFIC C, (FC-9.5.5) (INCL. TACK COAT)	TN	700	$ 160.00	$ 112,000.00
522-1	CONCRETE SIDEWALK, 4"	SY	500	$ 50.00	$ 25,000.00
522-2	CONCRETE SIDEWALK, 6"	SY	40	$ 100.00	$ 4,000.00
580-1-1	LANDSCAPE COMPLETE- SMALL PLANTS	LS	1	$ 50,000.00	$ 50,000.00
700-1-60	SINGLE POST SIGN, F&I GM, <12 SF	AS	30	$ 100.00	$ 3,000.00
711-11-160	THERMOPLASTIC, STD, WHITE, MESSAGE	EA	40	$ 140.00	$ 5,600.00
711-11-170	THERMOPLASTIC, STANDARD, WHITE, ARROW	EA	40	$ 75.00	$ 3,000.00
1000-X	RAISED SPEED TABLE	EA	7	$ 4,000.00	$ 28,000.00
				10% Contingency	$ 59,100.00
				10% CEI	$ 62,760.00
				TOTAL	$ 749,460.00

Notes: 1. Esimate based on Engineering Judgment in 2018$.

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City of Orlando Bike Plan Update
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Multi-Use Trail Cost Per Mile

Pay Item	Description	Unit	Quantity	Unit Price	Total
101-1	MOBILIZATION	LS	1	$ 110,000.00	$ 110,000.00
102-1	MAINTENANCE OF TRAFFIC	LS	1	$ 80,000.00	$ 80,000.00
104-14	PREVENTION, CONTROL & ABATEMENT OF EROSION & WATER POLLUTION	LS	1	$ 50,000.00	$ 50,000.00
110-1-1	CLEARING & GRUBBING	LS	1	$ 110,000.00	$ 110,000.00
160-4	TYPE B STABILIZATION (MIN. LBR 40) (12")	SY	7,100	$ 10.00	$ 71,000.00
285-702	OPTIONAL BASE GROUP 02	SY	7,100	$ 20.00	$ 142,000.00
337-7	ASPHALTIC CONC. FRICTION COURSE TRAFFIC C, (FC-9.5.5) (INCL. TACK COAT)	TN	800	$ 160.00	$ 128,000.00
430-X	DRAINAGE STRUCTURES	EA	20	$ 6,000.00	$ 120,000.00
522-1	CONCRETE SIDEWALK, 4"	SY	500	$ 50.00	$ 25,000.00
522-2	CONCRETE SIDEWALK, 6"	SY	1,790	$ 100.00	$ 179,000.00
580-1-1	LANDSCAPE COMPLETE- SMALL PLANTS	LS	1	$ 50,000.00	$ 50,000.00
700-1-60	SINGLE POST SIGN, F&I GM, <12 SF	AS	40	$ 100.00	$ 4,000.00
711-11-125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24"	LF	60	$ 5.00	$ 300.00
711-11-211	THERMOPLASTIC, STANDARD, YELLOW, SOLID, 6"	GM	0.2	$ 5,000.00	$ 946.97
711-14-X	THERMOPLASTIC, PREFORMED, GREEN, SOLID, 24"	LF	360	$ 20.00	$ 7,200.00
				10% Contingency	$ 107,744.70
				10% CEI	$ 107,744.70
				TOTAL	$ 1,292,936.40

Notes: 1. Esimate based on Engineering Judgment in 2018$.

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City of Orlando Bike Plan Update
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Buffered Bike Lanes Cost Per Mile

Pay Item	Description	Unit	Quantity	Unit Price	Total
101-1	MOBILIZATION	LS	1	$ 4,000.00	$ 4,000.00
102-1	MAINTENANCE OF TRAFFIC	LS	1	$ 3,000.00	$ 3,000.00
104-14	PREVENTION, CONTROL & ABATEMENT OF EROSION & WATER POLLUTION	LS	1	$ 2,000.00	$ 2,000.00
110-1-1	CLEARING & GRUBBING	LS	1	$ 1,000.00	$ 1,000.00
110-12	HYDRO BLASTING (PAV'T MARKING REMOVAL)	SY	600	$ 20.00	$ 12,000.00
711-11-111	THERMOPLASTIC, STANDARD, WHITE, SOLID, 6"	GM	2	$ 5,000.00	$ 10,000.00
711-11-160	THERMOPLASTIC, STD, WHITE, MESSAGE	EA	10	$ 140.00	$ 1,400.00
711-11-170	THERMOPLASTIC, STANDARD, WHITE, ARROW	EA	10	$ 75.00	$ 750.00
				10% Contingency	$ 3,415.00
				10% CEI	$ 3,415.00
				TOTAL	$ 40,980.00

Notes: 1. Esimate based on Engineering Judgment in 2018$.

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City of Orlando Bike Plan Update
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College Park Bike Boulevard Wayfinding

Pay Item	Description	Unit	Quantity	Unit Price	Total
101-1	MOBILIZATION	LS	1	$ 7,000.00	$ 7,000.00
102-1	MAINTENANCE OF TRAFFIC	LS	1	$ 5,000.00	$ 5,000.00
104-14	PREVENTION, CONTROL & ABATEMENT OF EROSION & WATER POLLUTION	LS	1	$ 5,000.00	$ 5,000.00
110-1-1	CLEARING & GRUBBING	LS	1	$ 5,000.00	$ 5,000.00
700-1-60	SINGLE POST SIGN, F&I GM, <12 SF	AS	36	$ 100.00	$ 3,600.00
711-11-160	THERMOPLASTIC, STD, WHITE, MESSAGE	EA	20	$ 140.00	$ 2,800.00
1000-X	RAISED SPEED TABLE	EA	10	$ 4,000.00	$ 40,000.00
				10% Contingency	$ 6,840.00
				10% CEI	$ 6,840.00
				TOTAL	$ 82,080.00

Notes: 1. Esimate based on Engineering Judgment in 2018$.

Appendix G: Latent Demand Analysis

Bicycle Demand Scoring - Part I

Destination	Bicycle Demand Scoring Score by Bike Distance (mi)			
	0.50	1.00	1.50	2.00
SunRail Station	15	10	5	1
College/University	15	10	5	1
City Landmarks	10	7	3	1
Orlando CBD	10	7	3	1
School (public)	10	5	1	0
Employment Centers	10	5	1	0
Bus Stop	10	5	1	0
Points of Interest	5	3	1	0

Bicycle Demand Scoring - Part II

Data	Bicycle Demand Scoring Scoring by TAZ Quintile				
	Highest Q	Q2	Q3	Q4	Lowest Q
Population + Employment Density	10	7	5	3	1
Employment /Population Ratio	1	3	5	3	1

Bicycle Demand Scoring - Part III

Data	Bicycle Demand Scoring Composite Equity Score							
	7	6	5	4	3	2	1	0
Composite Equity Score *	15	13	10	5	3	1	0	0

* Each point represents a block group below the Citywide average for one of the following:

- Population below poverty level
- Minority population
- Zero-vehicle households
- Population age 65 or above
- Population age 18 or below
- Means of transportation to work other than personal motor vehicle
- Limited English proficiency

Appendix H: Project Scores

Feature_ID	Name	From	To	Ownership	Speed_MPH	AADT	Source	MILES	Project Type	Primary Route	Connection	Gap	Equity	Safety	Latent Demand	Total Priority
547	Corrine Drive Cycle Track	Mills Ave	Forest Ave	State	35	30500	Primary Bi	0.675328	Off Street Trails or Separated Bike Lanes	100	100	100	70	100	72	88
234	PrimaryBikeRoute	_MichiganSt	_AndersonSt	City	30	11500	Primary Bi	1.55273	Off Street Trails or Separated Bike Lanes	100	10	100	100	100	80	87
366	OUT West Segment 1	Tampa Ave	Downtown	Other	25	0	Primary Bi	1.284325	Off Street Trails or Separated Bike Lanes	100	10	100	100	100	76	86
510	Corrine Drive	Forest Ave	Bennett	State	35	30500	Primary Bi	1.444857	Off Street Trails or Separated Bike Lanes	100	100	100	70	100	56	85
561	OBT Trail	Lake Lawne Tr	Rosemont	Other	40	35000	Primary Bi	3.436302	Off Street Trails or Separated Bike Lanes	100	100	100	100	100	27	85
215	Lake Underhill 436 Bridge	_MercadoAve	_YucatanDr	County	35	15500	Primary Bi	1.221401	Off Street Trails or Separated Bike Lanes	100	10	100	100	100	63	84
563	OUT West Segment 2	_TexasAveS	_LongStW	Other	25	0	Primary Bi	0.102123	Off Street Trails or Separated Bike Lanes	100	10	100	100	100	67	84
543	Bike Beltway Airport Gap	Livingston	Colonial		0	0	Primary Bi	0.388134	Off Street Trails or Separated Bike Lanes	100	60	100	70	100	69	84
235	North College Park Connector	_TaftAve	_NLakeFormosaDr	Other	20	13700	Primary Bi	2.766867	On Street Bicycle Boulevard	100	100	100	70	100	51	84
572	Airport North On-Street Connector	Mccoy Road	Avalon Trail	Other	35	2500	Primary Bi	0.597808	Off Street Trails or Separated Bike Lanes	100	10	100	100	100	43	80
216	Airport North On-Street Connector	Mccoy Road	Avalon Trail	Other	35	2500	Primary Bi	1.415178	Off Street Trails or Separated Bike Lanes	100	10	100	100	100	40	79
571	Airport North On-Street Connector	Mccoy Road	Avalon Trail	Other	35	2500	Primary Bi	1.019796	On Street Bicycle Boulevard	100	10	100	100	100	39	79
508	PrimaryBikeRoute	_GertrudesWalk	_NOrangeAve	Other	30	5000	Primary Bi	0.32333	Off Street Trails or Separated Bike Lanes	100	100	100	10	100	84	79
212	Engelwood Trail	Avalon Trail	Lake Underhill Trail	Other	25	0	Primary Bi	2.783891	Off Street Trails or Separated Bike Lanes	100	10	50	100	100	61	78
171	Gore St	_OrangeCenterBlvd	_DelaneyAve	County	30	13600	City GIS - F	1.750518	Off Street Trails or Separated Bike Lanes	10	100	100	100	100	82	78
513	Robinson St	Gertrudes Walk	Mills Ave		0	0	Primary Bi	0.940845	Off Street Trails or Separated Bike Lanes	100	100	100	10	100	82	78
317	Vineland Rd Trail	_VinelandRd	_VinelandRd	City	35	21500	Primary Bi	0.685519	Off Street Trails or Separated Bike Lanes	100	10	100	70	100	55	76
498	Parramore Connector Route	28th St	OUT	Other	30	2500	Primary Bi	2.809416	Bike Lanes (Buffered Preferred)	100	10	50	100	100	47	75
497	OUT West Segment 2	_EndofMantillaAve	_BrutonBlvd	City	25	42000	Primary Bi	1.625474	Off Street Trails or Separated Bike Lanes	100	10	100	70	100	44	74
173	Hughey Ave	_ChurchStW	_WColonialDr	Other	30	6800	City GIS - F	0.886352	Bike Lanes (Buffered Preferred)	10	100	100	70	100	90	74
589					0	0	New	1.003353	Off Street Trails or Separated Bike Lanes	10	100	100	70	100	84	73
310	WAndersonSt_EastWestExpy_WGoreSt	_SParramoreAve	_SDivisionAve	City	30	9300	City GIS - F	0.623919	Off Street Trails or Separated Bike Lanes	10	10	100	100	100	88	71
570	Airport North On-Street Connector	Mccoy Road	Avalon Trail	Other	35	2500	Primary Bi	0.236733	On Street Bicycle Boulevard	100	10	100	100	100	0	71
174	Central Blvd	_RioGrandeAve	_GertrudesWalk	City	30	1600	City GIS - F	1.275344	Bike Lanes (Buffered Preferred)	10	100	100	70	100	76	71
554	Danube Way	Engelwood Trail	Romano Ave		0	0	New	0.883381	On Street Bicycle Boulevard	10	100	50	100	100	68	71
495	Lake Lawne Trail	Pine Hills Trail	OBT Trail	Other	30	41500	Primary Bi	3.755211	Off Street Trails or Separated Bike Lanes	100	10	100	70	100	24	70
224	E/WColonialDrConcept	_EdgewaterDr	_HumphriesAve	State	35	43500	New	3.67183	Off Street Trails or Separated Bike Lanes	10	100	100	70	100	70	70
585					0	0	New	0.464544	Off Street Trails or Separated Bike Lanes	10	100	50	70	100	92	69
512	Robinson St	Mills Ave	Bumby Ave		0	0	Primary Bi	1.314475	On Street Bicycle Boulevard	100	10	0	70	100	66	68
546	Magnolia Ave	_SouthSt	_RailroadTracks	State	25	15500	Primary Bi	0.367051	Off Street Trails or Separated Bike Lanes	100	100	10	10	100	73	68
191	Mills Ave	_Morse Blvd	_BennettBlvd	State	35	30500	City GIS - F	1.512974	Off Street Trails or Separated Bike Lanes	10	100	100	70	100	55	67
544	Livingston St	Summerlin Ave	Bumby Ave		0	0	New	1.397911	Off Street Trails or Separated Bike Lanes	10	60	100	70	100	72	66
556	Shine Ave	Livingston Ave	Virginia Dr		0	0	Main Stree	1.562924	On Street Bicycle Boulevard	10	60	100	70	100	72	66
28	Kirkman Rd	_ConroyRd	_WColonialDr	State	50	57000	Primary Bi	1.607084	Off Street Trails or Separated Bike Lanes	100	10	10	70	100	46	65
302	OrangeAveBikeLaneConcept	_SRosalindAve	_JeffersonSt	State	30	10000	New	0.763094	Off Street Trails or Separated Bike Lanes	10	10	100	70	100	88	65
507	Division Ave Trail Connector	_DivisionAve	_UnderhillDr	State	30	15000	Primary Bi	0.409082	Off Street Trails or Separated Bike Lanes	100	10	100	70	10	90	65
509	SDivisionAve	_WAndersonSt	_WSouthSt	City	30	11500	City GIS - F	0.250299	Off Street Trails or Separated Bike Lanes	10	10	100	70	100	89	65
566	Division Ave Trail Connector	_DivisionAve	_UnderhillDr	State	30	15000	Primary Bi	0.426246	Off Street Trails or Separated Bike Lanes	100	10	100	70	10	92	65
237	Columbia Street Sunrail Connector	Division Ave	Sligh Blvd	City	25	8700	Primary Bi	0.193224	Off Street Trails or Separated Bike Lanes	100	100	10	70	10	89	65
574					0	0	New	1.000423	Bike Lanes (Buffered Preferred)	10	100	50	70	100	71	65
20	South St	_SHugheyAve	_SOrangeAve	City	30	16800	New	0.25253	Off Street Trails or Separated Bike Lanes	10	100	10	70	100	86	64
298	PrimaryBikeRoute	_UpperHardenAve	_LakeNonaBlvd	Other	45	38500	Primary Bi	3.713707	Off Street Trails or Separated Bike Lanes	100	100	100	10	100	9	64
549	Eola Drive Bicycle Boulevard	Jackson St	Robinson St		0	0	New	0.302072	On Street Bicycle Boulevard	10	10	100	70	100	80	63
313	NJohnYoungPkwy/EdgewaterDr	_NOrangeBlossomTrl	_AllAmericanBlvd	Other	35	23500	City GIS - F	1.224059	Off Street Trails or Separated Bike Lanes	10	100	100	100	100	5	63
408	SummerlinAveConcept	_KaleySt	_EMarksSt	City	25	12200	New	2.024842	Off Street Trails or Separated Bike Lanes	10	10	100	70	100	76	62
363	N-S Trail, OBT/All American to Maitland Blvd	OBT	Maitland Blvd	Other	40	35000	By Others	3.960885	Off Street Trails or Separated Bike Lanes	10	100	100	100	100	1	62
472	EMichiganStBikeLane	_SDivisionAve	_SOranageAve	County	35	27500	New	0.412298	Off Street Trails or Separated Bike Lanes	10	100	50	70	100	54	62
422	WSouthSt	_SParramoreAve	_SDivisionAve	City	30	8400	New	0.248619	Off Street Trails or Separated Bike Lanes	10	10	50	70	100	94	61
551	Rosedale Rd	Bumby Ave	Primrose	City	25	3800	Main Stree	0.252736	Off Street Trails or Separated Bike Lanes	10	10	100	70	100	68	61
96	EKingSt	_DadeAve	_LakeShoreDr	City	25	4500	New	1.245028	Bike Lanes (Buffered Preferred)	10	100	10	70	100	72	61
157	Lee Rd	_NOrangeBlossomTrl	_EdgewaterDr	State	45	30500	City GIS - F	0.723253	Off Street Trails or Separated Bike Lanes	10	100	100	70	100	25	61
278	Washington St	_GertrudesWalk	_MagnoliaAve	City	30	6200	City GIS - F	0.212537	Off Street Trails or Separated Bike Lanes	10	100	100	10	100	85	61
162	Washington St	_NTampaAve	_OrangeBlossomTrl	County	35	24500	City GIS - F	0.500674	Off Street Trails or Separated Bike Lanes	10	10	100	70	100	64	60
201	Orange Ave	_MichiganSt	_KaleySt	State	40	33500	City GIS - F	0.503688	Off Street Trails or Separated Bike Lanes	10	10	100	70	100	65	60
361	Primrose Dr	Robinson St	Illinois St	City	25	3800	Main Stree	0.570401	Off Street Trails or Separated Bike Lanes	10	10	100	70	100	65	60
321	Southport Trail	Lake Nona Blvd	Jetport Dr	Other	45	18700	Primary Bi	8.345969	Off Street Trails or Separated Bike Lanes	100	100	100	70	10	19	60
177	Concord St	_ColonialDr	_NHugheyAve	Other	25	0	City GIS - F	0.421682	On Street Bicycle Boulevard	10	10	50	70	100	84	59
236	Downtown Connector	Delaney Ave	Lake Underhill	State	30	15000	Primary Bi	2.025688	Off Street Trails or Separated Bike Lanes	100	10	100	70	10	58	59
401	EMichiganStBikeLane	_SOrangeAve	_DelaneyAve	County	30	27500	New	0.2499	Off Street Trails or Separated Bike Lanes	10	10	100	70	100	61	59
467	SOrangeAveBikeLane	_LucerneCir	_GoreSt	State	30	33500	New	0.162312	Off Street Trails or Separated Bike Lanes	10	10	50	70	100	83	59
473	SOrangeAveBikeLane	_KaleySt	_GoreSt	State	30	33500	New	0.754481	Off Street Trails or Separated Bike Lanes	10	10	50	70	100	83	59
219	Conway Rd	_GatlinAve	_CurryFordRd	State	40	34000	New	2.006754	Off Street Trails or Separated Bike Lanes	10	10	100	100	100	23	58
338	SlighBlvd	_GoreSt	_SSummerlinAve	City	25	1850	City GIS - F	1.304261	On Street Bicycle Boulevard	10	10	50	70	100	80	58
342	ECentralBlvd	_CeliaLn	_CrystalLakeDr	City	30	3100	City GIS - F	0.959614	Bike Lanes (Buffered Preferred)	10	10	100	70	100	57	58
417	Curry Ford Rd	_OxalisAve	_CottonDr	State	45	34000	New	0.545172	Off Street Trails or Separated Bike Lanes	10	10	50	100	100	49	58

461	CurryFordRdBikeLane	_SSemoranBlvd	_RaperDairyRd	State	45	34000	New	0.545555	Off Street Trails or Separated Bike Lanes	10	10	100	70	100	54	58
192	Princeton St	_PrincetonCt	_NMillsAve	City	30	17500	City GIS - F	1.32925	Off Street Trails or Separated Bike Lanes	10	100	100	10	100	71	58
351	VirginiaDr	_NOrangeAve	_OrlandoUrbanTrail	County	30	12400	City GIS - F	0.51648	Off Street Trails or Separated Bike Lanes	10	100	100	10	100	69	58
21	I-4	_WSouthSt	_ChurchStW	State	25	16000	New	0.126974	Off Street Trails or Separated Bike Lanes	10	10	10	70	100	95	57
167	Conroy Rd	_PresidentBarackObamaPkwy	_VinelandRd	City	35	41000	City GIS - F	0.457577	Off Street Trails or Separated Bike Lanes	10	10	100	70	100	51	57
222	PrimaryBikeRoute	_PershingAve	_LakeUnderhillRd	Other	30	0	Primary Bi	3.07435	On Street Bicycle Boulevard	100	10	100	100	10	19	57
359	OUT West Segment 2	_SunsetDr	_STampaAve	City	25	0	Primary Bi	0.190499	On Street Bicycle Boulevard	100	10	10	100	10	67	57
524	75000185			City	35	6100	FDOT Wid	0.473139	Bike Lanes (Buffered Preferred)	10	10	10	100	100	63	57
550	Bumby Ave	_LakeComoCir	_LivingstonSt	City	35	8600	City GIS - F	0.082546	Off Street Trails or Separated Bike Lanes	10	10	100	70	100	50	57
22	Rosalind Ave	_LucerneCir	_EWashingtonSt	State	35	17500	New	0.662257	Off Street Trails or Separated Bike Lanes	10	10	10	70	100	88	56
73	SParramoreAve	_WMillerSt	_WGoreSt	City	20	2500	New	0.504266	On Street Bicycle Boulevard	10	10	10	70	100	90	56
151	Bruton Blvd	_LBMcLeodRd	_ChandlerSt	City	35	19200	City GIS - F	0.504243	Off Street Trails or Separated Bike Lanes	10	10	50	100	100	41	56
160	Conway Rd	_CurryFordRd	_LakeUnderhillRd	State	40	25500	City GIS - F	0.912116	Off Street Trails or Separated Bike Lanes	10	10	100	70	100	44	56
238	OrangeBlossomTrlN	_SofWNewHampshireSt	_GolfviewSt	State	40	35000	Primary Bi	0.301406	Off Street Trails or Separated Bike Lanes	100	10	50	10	100	38	56
365	Carver Shores Trail	Shingle Creek Trail	Columbia St	Other	0	0	Primary Bi	0.732386	Off Street Trails or Separated Bike Lanes	100	10	100	70	10	45	56
440	Pershing Ave	_SSemoranBlvd	_PowerEasement	County	45	22500	New	1.237995	Off Street Trails or Separated Bike Lanes	10	10	100	100	100	14	56
444	LBMcLeodRd	_PresidentBarackObamaPkwy	_BrutonBlvd	County	45	33000	New	1.073898	Off Street Trails or Separated Bike Lanes	10	10	100	70	100	46	56
445	BrutonBlvd	_LBMcLeodRd	_ChandlerSt	City	35	19200	New	0.504243	Off Street Trails or Separated Bike Lanes	10	10	50	100	100	42	56
575					0	0	New	0.069014	Off Street Trails or Separated Bike Lanes	10	10	10	70	100	89	56
116	Raleigh St	_HiawasseeRd	_CampanellaAve	County	35	13400	New	2.184879	Off Street Trails or Separated Bike Lanes	10	10	100	70	100	42	55
120	RobertTrentJonesDr/ArnoldPalmerDr	_MetrowestBlvd	_SKirkmanRd	City	25	0	New	1.497545	Off Street Trails or Separated Bike Lanes	10	10	100	70	100	38	55
202	KirkmanRd	_WSandLakeRd	_ConroyRd	State	50	57000	City GIS - F	3.028243	Off Street Trails or Separated Bike Lanes	10	10	100	70	100	40	55
456	BrutonBlvd	_ChandlerSt	_ColumbiaSt	City	35	19200	New	0.525207	Off Street Trails or Separated Bike Lanes	10	10	100	70	100	42	55
458	OrangeBlossomTrlN	_WWashingtonSt	_WAmeilaSt	State	35	31000	New	0.375256	Off Street Trails or Separated Bike Lanes	10	10	50	70	100	67	55
514	Valencia Shingle Creek Trail Connector	Kirkman Blvd	Shingle Creek Trail		0	0	Primary Bi	0.306669	Off Street Trails or Separated Bike Lanes	100	10	100	70	10	41	55
564	John Young Parkway Trail	OUT West Segment	Clear Way		0	0	Primary Bi	0.790142	Off Street Trails or Separated Bike Lanes	100	10	50	100	10	36	55
594					0	0	New	1.210174	On Street Bicycle Boulevard	10	60	100	10	100	73	55
409	Tradeport Dr	_SOrangeAve	_WinoaDr	Other	45	26000	New	5.685488	Off Street Trails or Separated Bike Lanes	10	100	50	70	100	22	55
29	South St	_RioGrandeAveS	_SDivisionAve	City	30	8400	New	1.003592	Off Street Trails or Separated Bike Lanes	10	10	10	70	100	82	54
268	SpringdaleRd	_WAmeliaSt	_ArlingtonSt	Other	25	31000	City GIS - F	0.177818	Off Street Trails or Separated Bike Lanes	10	10	50	70	100	58	54
428	SlveyLn/ColumbiaSt	_ColumbiaSt	_SJohnYoungPkwy	Other	35	13400	New	1.179701	Off Street Trails or Separated Bike Lanes	10	10	100	70	100	35	54
496	Mercy Drive Connector	Colonial Dr	Barack Obama Pkwy	City	25	11700	Primary Bi	1.716944	On Street Bicycle Boulevard	100	10	100	70	10	34	54
600					0	0	New	3.32526	Off Street Trails or Separated Bike Lanes	10	10	100	70	100	35	54
42	John Young Pkwy	_ColonialDr	_OrangeBlossomTrl	State	45	54000	New	3.233578	Off Street Trails or Separated Bike Lanes	10	100	10	70	100	34	54
53	SummerlinAve	_BriercliffDr	_LakeDavisDr	City	25	12200	New	2.022695	Off Street Trails or Separated Bike Lanes	10	10	10	70	100	76	53
158	Curry Ford Rd	_WarwickPl	_SemoranBlvd	County	35	31500	City GIS - F	2.647433	Off Street Trails or Separated Bike Lanes	10	10	100	70	100	32	53
223	ConwayRd/DaetwylerDr	_BeachlineExpwy	_GatlinAve	Other	35	35000	Primary Bi	3.569729	On Street Bicycle Boulevard	100	10	100	10	100	0	53
357	WMichiganSt	_RioGrandeAve	_SDivisionAve	County	35	27500	City GIS - F	1.047545	Off Street Trails or Separated Bike Lanes	10	10	50	100	100	24	53
538	75080000			State	40	34000	FDOT Wid	0.924099	Hide - Off Street Trails or Separated Bike Lanes	10	10	10	100	100	46	53
53	SummerlinAve	_BriercliffDr	_LakeDavisDr	City	25	12200	New	2.022695	Off Street Trails or Separated Bike Lanes	10	10	10	70	100	76	53
602					0	0	New	0.886097	On Street Bicycle Boulevard	10	60	100	10	100	65	53
241	PrimaryBikeRoute	_DaetwylerDr	_CargoRd	City	25	47500	Primary Bi	8.220356	Off Street Trails or Separated Bike Lanes	100	100	50	70	10	11	53
166	Turkey Lake Rd	Sandlake Rd	Conroy Windermere Rd	Other	45	33500	New	3.687994	Off Street Trails or Separated Bike Lanes	10	10	100	70	100	23	52
186	Rio Grande Ave	_HoldenAve	_CentralBlvd	County	35	13200	City GIS - F	3.295863	Off Street Trails or Separated Bike Lanes	10	10	50	100	100	22	52
210	PrimaryBikeRoute	_SConwayRd	_SSemoranBlvd	Other	0	11800	Primary Bi	1.787707	Off Street Trails or Separated Bike Lanes	100	10	50	10	100	19	52
506	Lee Vista Blvd	_AugustaNationalDr	_ContesaDr	City	40	26000	New	2.814651	Off Street Trails or Separated Bike Lanes	10	10	100	70	100	27	52
525	75010000			State	35	37500	FDOT Wid	0.360257	Off Street Trails or Separated Bike Lanes	10	10	10	70	100	70	52
5	Colonial Dr	_NWestmorelandDr	_EdgewaterDr	State	35	36500	New	0.34409	Off Street Trails or Separated Bike Lanes	10	10	10	70	100	65	51
163	Concord St	_RailroadTracks	_MagnoliaAve	City	20	0	City GIS - F	0.247516	Bike Lanes (Buffered Preferred)	10	10	100	10	100	81	51
474	EColonialDrBikeLane	_LakeBaldwinLn	_OldCheneyHwy	State	30	66500	New	0.370904	Off Street Trails or Separated Bike Lanes	10	10	50	70	100	45	51
603					0	0	New	0.454908	Off Street Trails or Separated Bike Lanes	10	60	100	70	10	86	51
43	Magnolia Ave	_SouthSt	_RailroadTracks	State	25	15500	New	0.787221	Off Street Trails or Separated Bike Lanes	10	100	10	10	100	82	51
545	Magnolia Ave	_SouthSt	_RailroadTracks	State	25	15500	New	1.213218	Off Street Trails or Separated Bike Lanes	10	100	10	10	100	79	51
159	All American Blvd	_NOrangeBlossomTrl	_EdgewaterDrive	City	35	0	City GIS - F	0.510634	Bike Lanes (Buffered Preferred)	10	10	10	100	100	28	50
194	Orange Ave	_NEIvanhoeBlvd	_HazelSt	State	30	14400	City GIS - F	0.926929	Off Street Trails or Separated Bike Lanes	10	10	100	10	100	74	50
305	OUT West Segment 2	_SJohnYoungPkwy	_TexasAveS	City	25	0	City GIS - F	0.427506	On Street Bicycle Boulevard	10	10	10	70	100	58	50
442	RobertTrentJonesDr/ArnoldPalmerDr	_MetrowestBlvd	_SKirkmanRd	City	50	57000	New	0.74007	Off Street Trails or Separated Bike Lanes	10	10	50	70	100	41	50
565	Catalina Holden Heights Connector	OUT West	Gulf Stream Rd		0	0	Primary Bi	0.177999	On Street Bicycle Boulevard	100	10	10	100	10	30	50
225	Gore St	_DivisionAve	_DelaneyAve	County	30	13600	New	0.609962	Off Street Trails or Separated Bike Lanes	10	100	50	70	10	85	50
68	ArlingtonSt	_NTampaAve	_SpringdaleRd	City	25	0	New	0.501675	On Street Bicycle Boulevard	10	10	10	70	100	57	49
89	OrangeCenterBlvd	_SGoldwynAve	_SJohnYoungPkwy	City	35	6200	New	0.243213	Bike Lanes (Buffered Preferred)	10	10	10	70	100	53	49
165	Conroy Rd	_TurkeyLakeRd	_ShingleCreekTrail	Other	45	41000	City GIS - F	1.839747	Off Street Trails or Separated Bike Lanes	10	10	50	70	100	36	49
200	Orange Ave	_LegionPl	_IvanhoeBlvd	State	30	14400	City GIS - F	0.251593	Off Street Trails or Separated Bike Lanes	10	10	100	10	100	72	49
205	Pershing Ave	_CommanderDr	_SGoldenrodRd	County	45	22500	City GIS - F	1.260975	Off Street Trails or Separated Bike Lanes	10	10	50	100	100	5	49
240	Narcoosee Rd	_TawnyberrySt	_LeeVistaBlvd	Other	45	38500	New	3.194198	Off Street Trails or Separated Bike Lanes	10	10	100	70	100	11	49
40	Orange Ave	_LocustAve	_EMichiganSt	State	40	43000	New	3.338706	Off Street Trails or Separated Bike Lanes	10	100	10	70	100	9	49

27	Radebaugh Way	_MilleniaBlvd	_VinelandRd	City	35	25000	New	0.116556	Off Street Trails or Separated Bike Lanes	10	10	10	70	100	51	48
93	LoringPl	_SConwayRd	_GastonFosterRd	City	25	0	New	0.492314	On Street Bicycle Boulevard	10	10	10	70	100	52	48
122	Rio Grande Ave	_HoldenAve	_CentralBlvd	County	35	13200	City GIS - F	1.002061	Off Street Trails or Separated Bike Lanes	10	10	50	100	100	0	48
154	Colonial Dr	_GoodHomesRd	_MercyDr	State	45	41500	City GIS - F	4.529906	Off Street Trails or Separated Bike Lanes	10	10	100	70	100	6	48
311	WGoreSt	_EastWestExpwy	_SDivisionAve	County	35	13600	City GIS - F	0.187056	Off Street Trails or Separated Bike Lanes	10	10	50	100	10	90	48
358	STerryAve	_WSouthSt	_SDivisionAve	City	30	4700	City GIS - F	0.250058	Bike Lanes (Buffered Preferred)	10	10	100	70	10	96	48
439	Hoffner Ave	_SConwayRd	_GoldenrodRd	County	45	24000	New	2.640034	Off Street Trails or Separated Bike Lanes	10	10	100	70	100	4	48
500	STerryAve/ChurchStW	_WAndersonSt	_SDivisionAve	Other	30	4700	City GIS - F	0.379466	Bike Lanes (Buffered Preferred)	10	10	100	70	10	96	48
535	75190000			State	55	55000	FDOT Wid	0.158171	Off Street Trails or Separated Bike Lanes	10	10	10	70	100	50	48
568	PrimaryBikeRoute	_SConwayRd	_SSemoranBlvd	Other	0	11800	Primary Bi	0.475999	On Street Bicycle Boulevard	100	10	50	10	100	0	48
16	Colonial Dr	_MercyDr	_TampaAve	State	45	43000	New	1.503051	Off Street Trails or Separated Bike Lanes	10	10	10	70	100	47	47
33	Semoran Blvd	_TGLeeBlvd	_CurryFordRd	State	50	60922	New	4.35453	Off Street Trails or Separated Bike Lanes	10	10	10	70	100	43	47
98	NimonsSt/WellsSt/MableButlerAve	_AaronAve	_SGoldwynAve	City	25	19200	New	1.31165	Bike Lanes (Buffered Preferred)	10	10	10	70	100	43	47
115	SKirkmanRd/RaleighSt	_MetrowestBlvd	_LescotLn	Other	50	58500	New	0.724259	Off Street Trails or Separated Bike Lanes	10	10	10	70	100	47	47
211	PrimaryBikeRoute	_DivisionAve	_StilwellDr	Other	30	8600	Primary Bi	4.252215	On Street Bicycle Boulevard	100	10	50	70	10	23	47
319	RosalindConcept	_LucerneCir	_AndersonSt	State	35	48000	New	0.207921	Off Street Trails or Separated Bike Lanes	10	10	100	70	10	92	47
526	75012000			State	40	31500	FDOT Wid	0.082568	Off Street Trails or Separated Bike Lanes	10	10	10	70	100	44	47
542	75003000			State	45	61000	FDOT Wid	5.419994	Off Street Trails or Separated Bike Lanes	10	10	10	70	100	46	47
190	Amelia St	_OrangeBlossomTrlN	_NWestmorelandDr	City	30	3800	City GIS - F	0.250318	Bike Lanes (Buffered Preferred)	10	100	50	70	10	71	47
258	Hughey Ave	_WGoreSt	_WAmericaSt	City	30	0	City GIS - F	0.204173	Off Street Trails or Separated Bike Lanes	10	100	10	70	10	88	47
519	Narcoosee Rd	_BoggyCreekRd	_LeeVistaBlvd	Other	45	38500	New	3.502473	Off Street Trails or Separated Bike Lanes	10	100	10	70	100	0	47
17	Columbia St	_AmarosAve	_BrutonBlvd	Other	35	13400	New	0.252895	Off Street Trails or Separated Bike Lanes	10	10	10	70	100	38	46
169	John Young Pkwy	_ChurchStW	_ColonialDr	State	45	49500	City GIS - F	0.880598	Off Street Trails or Separated Bike Lanes	10	10	50	70	100	22	46
172	Ameila St	_ParramoreAve	_NHugheyAve	City	30	3800	City GIS - F	0.980858	Bike Lanes (Buffered Preferred)	10	10	100	70	10	84	46
203	Conroy Rd	_EastgateDr	_MilleniaBlvd	City	35	41000	City GIS - F	0.345771	Off Street Trails or Separated Bike Lanes	10	10	100	10	100	54	46
332	NOrangeBlossomTrl	_CinderlanePkwy	_AllAmericanBlvd	State	50	31500	City GIS - F	0.19972	Off Street Trails or Separated Bike Lanes	10	10	50	70	100	18	46
420	Oak Ridge Rd	_MilleniaBlvd	_PrimaryBikeRoute	County	30	25000	New	0.757404	Off Street Trails or Separated Bike Lanes	10	10	10	100	100	8	46
522	NewBroadSt	_JakeSt	_LakeBaldwin	City	25	0	City GIS - F	0.326456	On Street Bicycle Boulevard	10	10	100	10	100	54	46
541	75003000			State	45	65000	FDOT Wid	1.087629	Off Street Trails or Separated Bike Lanes	10	10	10	70	100	40	46
580	Delaney Ave	_MichiganSt	_AndersonSt	City	25	5800	New	0.381955	Bike Lanes (Buffered Preferred)	10	10	100	70	10	83	46
214	Vista East Trail	SR 528	Avalon Trail	Other	0	0	Primary Bi	3.63733	Off Street Trails or Separated Bike Lanes	100	10	50	70	10	13	45
328	KalmiaDr	_MercadoAve	_SSemoranBlvd	City	30	0	City GIS - F	0.51923	Bike Lanes (Buffered Preferred)	10	10	100	70	10	80	45
364	Millenia Trail Connectors	Millenia Mall	OBT	Other	0	0	Primary Bi	3.000011	Off Street Trails or Separated Bike Lanes	100	10	10	100	10	7	45
372	PlannedTrail	_VinelandRd	_NofWaldenCir	Other	50	26000	New	0.495044	Off Street Trails or Separated Bike Lanes	10	10	100	10	100	51	45
470	EMichiganStBikeLane	_DelaneyAve	_SMillsAve	County	40	27500	New	0.500983	Off Street Trails or Separated Bike Lanes	10	10	10	70	100	37	45
471	MichiganStBikeLane	_MayerSt	_CurryFordRd	County	40	27500	New	1.937298	Off Street Trails or Separated Bike Lanes	10	10	50	70	100	13	45
579					0	0	New	0.159763	Off Street Trails or Separated Bike Lanes	10	10	100	70	10	79	45
2	LeeVista Blvd	_SSemoranBlvd	_NarcoosseeRd	City	40	26000	New	2.178535	Off Street Trails or Separated Bike Lanes	10	10	10	70	100	32	44
221	Delaney Ave	_MichiganSt	_AndersonSt	City	25	5800	New	1.062272	Bike Lanes (Buffered Preferred)	10	10	100	70	10	73	44
581	Delaney Ave	_MichiganSt	_AndersonSt	City	25	5800	New	0.263064	Off Street Trails or Separated Bike Lanes	10	10	100	70	10	74	44
155	Kaley St	_SDivisionAve	_SOrangeAve	County	30	9100	City GIS - F	0.503428	Off Street Trails or Separated Bike Lanes	10	100	10	70	10	73	44
143	South St	_SOrangeAve	_SMagnoliaAve	City	30	19500	City GIS - F	0.09012	Off Street Trails or Separated Bike Lanes	10	10	10	10	100	86	43
204	Frontage Rd	_ForbesPl	_SSemoranBlvd	City	30	10600	City GIS - F	0.146132	Off Street Trails or Separated Bike Lanes	10	10	100	10	100	42	43
233	Cady Way Fashion Sq Connection	_CadyWayTrail	_MaguireBlvd	City	20	0	By Others	0.169536	Off Street Trails or Separated Bike Lanes	10	10	100	70	10	69	43
273	PlannedTrail	_WAndersonSt	_STerryAve	Other	0	0	City GIS - F	0.129408	Off Street Trails or Separated Bike Lanes	10	10	50	70	10	95	43
277	WSouthSt	_SDivisionAve	_SHugheyAve	City	30	16800	City GIS - F	0.111794	Off Street Trails or Separated Bike Lanes	10	10	50	70	10	97	43
349	PeachtreeRd	_EdgewaterDr	_WColonialDr	City	25	0	City GIS - F	0.219696	On Street Bicycle Boulevard	10	10	50	10	100	63	43
453	UniversalBlvdBikeLane	_VinelandRd	_InternationalDr	City	30	34000	New	1.50341	Off Street Trails or Separated Bike Lanes	10	10	100	10	100	39	43
459	NOrangeAveBikeLane	_SIvanhoeBlvd	_NEIvanhoeBlvd	State	30	14400	New	0.433658	Off Street Trails or Separated Bike Lanes	10	10	50	10	100	67	43
3	LeeVista Blvd	_NarcoosseeRd	_CentralFloridaGreenway	City	45	26000	New	2.531004	Off Street Trails or Separated Bike Lanes	10	10	10	70	100	20	42
57	CarterSt	_RioGrandeAveS	_SWestmorelandDr	City	25	0	New	0.504565	On Street Bicycle Boulevard	10	10	10	100	10	78	42
149	Orange Ave	_LucerneCir	_SRosalindAve	State	30	33500	City GIS - F	0.048126	Off Street Trails or Separated Bike Lanes	10	10	50	70	10	91	42
178	Colonial Dr	_EdgewaterDr	_PeachtreeRd	State	35	36500	City GIS - F	0.176102	Off Street Trails or Separated Bike Lanes	10	10	50	10	100	61	42
180	Silver Star Rd	_NHiawaseeRd	_ChantelleAve	State	40	39000	City GIS - F	2.450263	Off Street Trails or Separated Bike Lanes	10	10	50	70	100	2	42
199	Anderson St	_SRosalindAve	_DelaneyAve	State	30	15000	City GIS - F	0.068072	Off Street Trails or Separated Bike Lanes	10	10	50	70	10	90	42
213	PrimaryBikeRoute	_CargoRd	_McCoyRd	Other	45	8600	Primary Bi	0.464436	Off Street Trails or Separated Bike Lanes	100	10	10	70	10	22	42
246	Lake Eola Trail	_NRosalindAve	_NRosalindAve	Other	0	0	City GIS - F	0.869874	Off Street Trails or Separated Bike Lanes	10	10	10	10	100	81	42
312	SylviaLn	_WGoreSt	_SR-408	City	25	12000	City GIS - F	0.44955	Off Street Trails or Separated Bike Lanes	10	10	50	70	10	90	42
334	EngelDr	_LaCostaDr	_YucatanDr	City	25	6200	City GIS - F	1.004211	On Street Bicycle Boulevard	10	10	50	100	10	58	42
362	LucerneTerrace	_SSylviaLn	_GoreSt	City	25	0	City GIS - F	0.305775	On Street Bicycle Boulevard	10	10	50	70	10	90	42
450	ChurchStW	_SParramoreAve	_SDivisionAve	City	30	4700	New	0.124336	Bike Lanes (Buffered Preferred)	10	10	50	70	10	89	42
479	GastonFosterRdSignedRoute	_CurryFordRd	_LakeUnderhillRd	City	35	6600	New	0.997633	Bike Lanes (Buffered Preferred)	10	10	100	70	10	63	42
562	Kirkman Rd	_ConroyRd	_WColonialDr	State	50	57000	New	1.70006	Off Street Trails or Separated Bike Lanes	10	10	10	70	100	18	42
14	Princeton St	_SilverStarRd	_NJohnYoungPkwy	State	45	27000	New	2.156533	Off Street Trails or Separated Bike Lanes	10	10	10	70	100	14	41
121	Atlanta Ave	_WKaleySt	_ColumbiaSt	City	25	0	New	0.533488	On Street Bicycle Boulevard	10	10	50	70	10	84	41
170	Tampa Ave	_OrangeCenterBlvd	_WWashingtonSt	County	30	8700	City GIS - F	0.847518	Off Street Trails or Separated Bike Lanes	10	10	50	100	10	57	41

175	Bennett Rd	Colonial Dr	Corrine Dr	County	35	12000	City GIS - F	1.004234	Bike Lanes (Buffered Preferred)	10	10	100	70	10	60	41
196	Long St	_SWestmorelandDr	_SParramoreAve	City	25	0	City GIS - F	0.251734	On Street Bicycle Boulevard	10	10	50	70	10	85	41
283	Lee Vista Square Trail	_PrimaryBikeRoute	_EconlockhatcheeTrl	Other	0	0	Primary Bi	0.352298	Off Street Trails or Separated Bike Lanes	100	10	10	70	10	13	41
307	ConwayGardensRd	_EMichiganSt	_UnderhillDr	Other	30	7500	City GIS - F	2.066732	Off Street Trails or Separated Bike Lanes	10	10	100	100	10	31	41
331	BahiaAve	_CurryFordRd	_LaCostaDr	City	25	0	City GIS - F	0.222261	On Street Bicycle Boulevard	10	10	100	70	10	60	41
19	Bumby Ave	_LivingstonSt	_RosedaleSt	City	35	20000	New	0.443202	Off Street Trails or Separated Bike Lanes	10	10	10	10	100	71	40
58	FormosaAve	_NewHampshireSt	_EParSt	City	25	2600	New	1.026759	On Street Bicycle Boulevard	10	10	10	10	100	69	40
187	Fun Spot Way	_GrandNationalDr	_InternationalDr	City	30	0	City GIS - F	0.424296	Bike Lanes (Buffered Preferred)	10	10	100	70	10	55	40
226	Gore St	_DelaneyAve	_PrimroseDr	City	20	0	New	1.787817	Off Street Trails or Separated Bike Lanes	10	10	100	70	10	57	40
227	Ivanhoe Blvd	_LakeviewSt	_MagnoliaAve	City	30	0	New	0.218349	Bike Lanes (Buffered Preferred)	10	10	10	10	100	71	40
239	NOrangeAve	_EPrincetonSt	_HarmonAve	Other	35	14400	New	1.208493	Off Street Trails or Separated Bike Lanes	10	10	50	10	100	49	40
339	LucerneCir	_SOrangeAve	_DelaneyAve	City	25	0	City GIS - F	0.146553	On Street Bicycle Boulevard	10	10	50	70	10	82	40
419	Fun Spot Way	_PlannedTrail	_InternationalDr	City	30	0	New	0.498415	Bike Lanes (Buffered Preferred)	10	10	100	70	10	54	40
429	NWestmorelandDr	_WColonialDr	_LakeAdairBlvdN	City	25	1200	New	0.570733	On Street Bicycle Boulevard	10	10	100	70	10	53	40
452	CRSmithSt	_SGoldwynAve	_SJohnYoungPkwy	City	30	0	New	0.232558	Bike Lanes (Buffered Preferred)	10	10	100	70	10	54	40
588					0	0	New	0.289182	Off Street Trails or Separated Bike Lanes	10	10	100	70	10	53	40
124	Sand Lake Rd	_I-4	_ConwayRd	State	45	58000	City GIS - F	8.576747	Off Street Trails or Separated Bike Lanes	10	100	50	10	100	4	40
558	Canton St	Terrace Blvd	Ferncreek Ave		0	0	New	0.400643	On Street Bicycle Boulevard	10	100	100	10	10	71	40
94	IvanhoeBlvd	_MagnoliaAve	_NewHampshireSt	City	25	11400	New	1.664531	Off Street Trails or Separated Bike Lanes	10	10	10	10	100	65	39
112	Hiawassee Rd	_MardellCt	_GrosVenorLn	County	45	34500	New	2.574953	Off Street Trails or Separated Bike Lanes	10	10	100	10	100	21	39
117	ValenciaCommunityCollegeDr	_SKirkmanRd	_SKirkmanRd	City	35	0	New	1.745765	Bike Lanes (Buffered Preferred)	10	10	100	70	10	50	39
118	MetrocenterBlvd	_MetrowestBlvd	_ValenciaCommunityCollegeDr	City	35	0	New	0.356149	Off Street Trails or Separated Bike Lanes	10	10	100	70	10	49	39
147	Ferncreek Ave	_VirginiaDr	_NebraskaSt	City	25	0	City GIS - F	0.109508	Bike Lanes (Buffered Preferred)	10	10	50	70	10	75	39
260	Festival Bay Mall Trail	_InternationalDr	_PlannedTrail	Other	0	0	City GIS - F	0.885409	Off Street Trails or Separated Bike Lanes	10	10	100	70	10	49	39
300	PrimaryBikeRoute	_DowdenRd	_HeintzelmanBlvd	Other	30	0	Primary Bi	3.607565	Off Street Trails or Separated Bike Lanes	100	10	100	10	10	20	39
301	PrimaryBikeRoute	_HeintzelmanBlvd	_DowdenRd	Other	40	0	Primary Bi	1.523418	Off Street Trails or Separated Bike Lanes	100	10	100	10	10	19	39
308	WataugaAve	_GatlinAve	_LakeUnderhillRd	City	30	10400	City GIS - F	3.064423	Off Street Trails or Separated Bike Lanes	10	10	100	100	10	19	39
346	NebraskaSt	_NMillsAve	_NFernCreekAve	City	25	0	City GIS - F	0.241412	Off Street Trails or Separated Bike Lanes	10	10	50	70	10	77	39
402	ConroyRd	_ShingleCreekTrail	_PresidentBarackObamaPkwy	City	35	41000	New	0.202909	Off Street Trails or Separated Bike Lanes	10	10	100	70	10	48	39
569	PinelochAve	_29thSt	_OsceolaAve	Other	30	27500	City GIS - F	0.660522	On Street Bicycle Boulevard	10	10	100	100	10	20	39
599					0	0	New	0.488394	Bike Lanes (Buffered Preferred)	10	60	50	70	10	52	39
6	Edgewater Dr	_WColonialDrive	_PrincetonSt	City	25	11400	New	0.569542	Off Street Trails or Separated Bike Lanes	10	10	10	10	100	58	38
137	Amelia St	_SPrimroseDr	Maguire Blvd	City	30	0	Main Stree	0.141693	Off Street Trails or Separated Bike Lanes	10	10	50	70	10	70	38
164	35th St	_MaggieBlvd	_StValentineWay	City	30	0	City GIS - F	0.561623	Bike Lanes (Buffered Preferred)	10	10	100	70	10	46	38
259	PlannedTrail	_MetrowestBlvd	_LakeFranUrbanWetlands	Other	0	0	City GIS - F	0.450433	Off Street Trails or Separated Bike Lanes	10	10	100	70	10	47	38
296	PrimaryBikeRoute	_DowdenRd	_MartinAndersenBeachlineExpy	Other	70	6800	Primary Bi	4.221865	Off Street Trails or Separated Bike Lanes	100	10	100	10	10	14	38
297	PrimaryBikeRoute	_LakeNonaVillagePl	_ExistingTrail	Other	0	0	Primary Bi	1.12458	Off Street Trails or Separated Bike Lanes	100	10	100	10	10	16	38
354	KaleyAve	_SOrangeAve	_SFerncreekAve	County	25	10000	City GIS - F	1.001898	Off Street Trails or Separated Bike Lanes	10	10	50	70	10	68	38
356	Lake Margaret Drive	_SBumbyAve	_SConwayRd	County	35	5300	New	0.255204	Off Street Trails or Separated Bike Lanes	10	10	50	10	100	40	38
418	Livingston St	_NPrimroseDr	_MaguireBlvd	City	30	5000	New	0.138309	Bike Lanes (Buffered Preferred)	10	10	50	70	10	70	38
460	NebraskaStBikeLane	_NFernCreekAve	_NForestAve	City	25	0	New	0.325986	Off Street Trails or Separated Bike Lanes	10	10	50	70	10	72	38
462	WoodgateBlvdBikeLane	_PershingAve	_RaperDairyRd	City	30	0	New	1.105626	Bike Lanes (Buffered Preferred)	10	10	50	100	10	39	38
466	LucerneCirBikeLane	_WAmericaSt	_WAndersonSt	City	25	0	New	0.222662	On Street Bicycle Boulevard	10	10	10	70	10	92	38
485	BethuneDr	_LewisCt	_SGoldwynAve	City	25	0	New	0.394265	On Street Bicycle Boulevard	10	10	100	70	10	47	38
488	LucerneCirSignedRoute	_AmericaSt	_SOrangeAve	City	25	0	New	0.185901	On Street Bicycle Boulevard	10	10	10	70	10	91	38
559	Edgewater Dr	_WColonialDrive	_PrincetonSt	City	25	11400	Edgewater	0.496233	On Street Bicycle Boulevard	10	10	10	10	100	58	38
587	WKaleySt	_RioGrandeAveS	_SParramoreAve	County	0	2800	New	0.503476	Off Street Trails or Separated Bike Lanes	10	10	50	100	10	41	38
536	75000019			City	30	11500	FDOT Wid	0.574757	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	92	38
30	Gore St	_LexHesterLn	_EofLexHesterLn	City	35	8700	New	0.040827	Off Street Trails or Separated Bike Lanes	10	10	10	100	10	56	37
37	Edgewater Dr	Winter Park St	Par St	State	25	11400	Edgewater	0.463283	Off Street Trails or Separated Bike Lanes	10	10	10	10	100	55	37
39	Delaney Ave	_EPinelochSt	_EMichiganSt	County	30	7400	New	0.25783	Off Street Trails or Separated Bike Lanes	10	10	10	10	100	56	37
206	Avalon Trail	SR 436	SR 417	Other	0	0	By Others	4.117664	Off Street Trails or Separated Bike Lanes	10	10	100	100	10	8	37
208	Andes Ave Trail	Lake Underhill	Colonial Drive	Other	25	0	By Others	1.041131	Off Street Trails or Separated Bike Lanes	10	10	50	70	10	64	37
247	Lake Of The Woods Trial	_SlighBlvd	_SlighBlvd	Other	0	0	City GIS - F	0.460625	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	86	37
248	PlannedTrail	_OrangeCenterBlvd	_CarterSt	Other	0	0	City GIS - F	0.193135	Off Street Trails or Separated Bike Lanes	10	10	10	100	10	53	37
320	PrimaryBikeRoute	_PrimaryBikeRoute	_DowdenRd	City	25	0	Primary Bi	0.459186	Off Street Trails or Separated Bike Lanes	100	10	100	10	10	12	37
329	ScotchwoodGlen	_RaperDairyRd	_EGrantSt	City	30	0	City GIS - F	0.396736	Bike Lanes (Buffered Preferred)	10	10	100	70	10	42	37
333	PlazaTerraceDr	_ExecutiveCenterDr	_FalconDr	City	25	0	City GIS - F	0.851702	On Street Bicycle Boulevard	10	10	50	70	10	63	37
335	SSummerlinAve	_EKaleySt	_BriercliffDr	City	25	3200	City GIS - F	0.502529	Bike Lanes (Buffered Preferred)	10	10	50	70	10	64	37
337	JamilAve	_WCentralBlvd	_WWashingtonSt	City	25	0	City GIS - F	0.111522	On Street Bicycle Boulevard	10	10	50	70	10	66	37
370	Hazeltine National Dr	Shadowridge Dr	Semoran Blvd	City	30	1400	New	0.34327	Bike Lanes (Buffered Preferred)	10	10	100	70	10	41	37
443	LBMcLeodRd	_SKirkmanRd	_PresidentBarackObamaPkwy	County	45	33000	New	1.029281	Off Street Trails or Separated Bike Lanes	10	10	100	70	10	40	37
483	LescotLn	_PoppyAve	_DeerockDr	City	25	0	New	0.303754	On Street Bicycle Boulevard	10	10	100	70	10	42	37
491	ColumbiaStSignedRoute	_SlighBlvd	_SOrangeAve	City	25	8700	New	0.311702	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	86	37
548	SouthSt/CrystalLakeBikeLane	_SMagnoliaAve	_CurryFordRd	State	35	19500	New	1.004049	Off Street Trails or Separated Bike Lanes	10	10	100	70	10	41	37
560	Edgewater Dr	_WColonialDrive	_PrincetonSt	City	25	11400	Edgewater	0.496688	Bike Lanes (Buffered Preferred)	10	10	10	10	100	53	37

597	Shadowridge Dr	_LeeVistaBlvd	_TGLeeBlvd	City	30	1400	New	0.50864	Bike Lanes (Buffered Preferred)	10	10	100	70	10	41	37
591					0	0	New	0.241514	On Street Bicycle Boulevard	10	10	50	70	10	65	37
83	CherokeeDr	_DelaneyAve	_SummerlinAve	City	25	0	New	0.366247	On Street Bicycle Boulevard	10	10	10	70	10	78	36
134	Mercy Dr	_ShaderRd	_SLakeOrlandoPkwy	City	35	11700	City GIS - F	0.211067	Off Street Trails or Separated Bike Lanes	10	10	100	70	10	34	36
207	Azalea Park Trail	Power Easement	Avalon Trail	Other	0	0	By Others	2.544277	Off Street Trails or Separated Bike Lanes	10	10	50	100	10	30	36
209	Fairgreen Street Trail	Maguire	Lake Barton	Other	25	0	By Others	1.726347	Off Street Trails or Separated Bike Lanes	10	10	50	70	10	60	36
336	WCentralBlvd	_TampaBlvd	_JamilAve	City	25	1600	City GIS - F	0.2754	On Street Bicycle Boulevard	10	10	50	70	10	61	36
345	TanagerDr	_IbisDr	_CorrineDr	City	25	0	City GIS - F	0.432724	On Street Bicycle Boulevard	10	10	50	70	10	60	36
350	LakeShoreDr	_CorrineDr	_DorchesterSt	City	20	0	City GIS - F	0.89569	On Street Bicycle Boulevard	10	10	100	70	10	36	36
368	Port Huenume Ave	_LauraPl	_PlazaTerraceDr	City	15	0	New	0.270957	On Street Bicycle Boulevard	10	10	50	70	10	62	36
447	Lawton Rd	_McCulloughAve	_PelicanLn	City	30	19300	New	0.296142	Off Street Trails or Separated Bike Lanes	10	10	50	70	10	62	36
492	OspreyAveSignedRoute	_PelicanLn	_CorrineDr	City	25	0	New	0.444744	On Street Bicycle Boulevard	10	10	50	70	10	59	36
493	VirginiaDrSignedRoute	_TanagerDr	_BennettRd	City	25	0	New	0.34689	On Street Bicycle Boulevard	10	10	50	70	10	58	36
531	75000197			City	35	13500	FDOT Wid	1.369759	Off Street Trails or Separated Bike Lanes	10	10	10	10	100	50	36
532	75000194			City	35	25000	FDOT Wid	0.139032	Off Street Trails or Separated Bike Lanes	10	10	10	10	100	51	36
578					0	0	New	0.360923	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	80	36
343	FalconDr	_ChelseaPl	_TanagerDr	City	20	0	City GIS - F	0.798233	On Street Bicycle Boulevard	10	10	50	70	10	59	36
557	Hyer Ave	Livingston St	Lake Highland		0	0	Main Stree	0.877994	On Street Bicycle Boulevard	10	60	100	10	10	71	36
48	MercadoAve	_LakeUnderhillRd	_KalmiaDr	City	25	0	New	0.284494	On Street Bicycle Boulevard	10	10	10	70	10	73	35
52	DelaneyAve	_MichiganSt	_AndersonSt	City	25	5800	New	1.697597	Bike Lanes (Buffered Preferred)	10	10	10	70	10	75	35
56	LongSt	_RioGrandeAveS	_SWestmorelandDr	City	25	0	New	0.50324	On Street Bicycle Boulevard	10	10	10	70	10	75	35
182	Grand National Dr	_FunSpotWay	_WOakRidgeRd	City	35	4900	City GIS - F	0.422308	Off Street Trails or Separated Bike Lanes	10	10	50	70	10	53	35
183	Adrianna Ave	_FunSpotWay	_WOakRidgeRd	City	30	0	City GIS - F	0.330014	Bike Lanes (Buffered Preferred)	10	10	50	70	10	54	35
184	Altamira Dr	_AdriannaAve	_InternationalDr	City	30	0	City GIS - F	0.233772	Bike Lanes (Buffered Preferred)	10	10	50	70	10	55	35
379	VinelandRd	_MilleniaElementary	_RadebaughWay	City	50	26000	New	0.034831	Off Street Trails or Separated Bike Lanes	10	10	10	10	100	45	35
527	75012000			State	40	31500	FDOT Wid	1.176772	Hide - Off Street Trails or Separated Bike Lanes	10	10	10	10	100	47	35
530	75000208			City	50	26000	FDOT Wid	4.031782	Off Street Trails or Separated Bike Lanes	10	10	10	10	100	46	35
11	Mercy Dr	_SeaboardRd	_ShaderRd	City	35	11700	New	0.31878	Off Street Trails or Separated Bike Lanes	10	100	10	70	10	32	35
25	Universal Blvd	_I-4	_VinelandRd	City	30	34000	New	1.022411	Off Street Trails or Separated Bike Lanes	10	10	10	10	100	39	34
31	Ferncreek Ave	_ECentralBlvd	_VirginiaDr	City	30	8200	New	1.457768	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	72	34
75	BarcelonaSt	_GastonFosterRd	_RomanoAve	City	25	0	New	0.787722	On Street Bicycle Boulevard	10	10	10	70	10	71	34
185	Oak Ridge Rd	_GrandnationalDr	_AdriannaAve	City	35	4900	City GIS - F	0.081883	Bike Lanes (Buffered Preferred)	10	10	50	70	10	52	34
269	The Nature Park	Andes Ave	Mercado Ave	Other	55	0	City GIS - F	0.309362	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	71	34
309	PrimaryBikeRoute	_BoggyCreekRd	_LakeNonaBlvd	Other	0	0	Primary Bi	1.961095	Off Street Trails or Separated Bike Lanes	100	10	50	10	10	20	34
340	EJacksonSt	_SMagnoliaAve	_SRosalindAve	City	25	0	City GIS - F	0.096287	On Street Bicycle Boulevard	10	10	100	10	10	85	34
369	Rixey St Connection	Cady Way Trail	Lake Baldwin Lane	City	0	0	New	0.587585	On Street Bicycle Boulevard	10	10	10	70	10	69	34
441	Emerald Dunes Dr	_HazeltineNationalDr	_LeeVistaBlvd	City	25	0	New	0.433696	On Street Bicycle Boulevard	10	10	100	70	10	25	34
499	Lake Underhill Rd	_GastonFosterRd	_AndesAve	County	30	18200	City GIS - F	0.349037	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	68	34
503	EaglesmereDr	_PeregrineAve	_SKirkmanRd	City	30	0	New	0.101249	Bike Lanes (Buffered Preferred)	10	10	10	10	100	39	34
7	Universal Blvd	_WSandlakeRd	_InternationalDr	City	35	34000	New	0.868178	Off Street Trails or Separated Bike Lanes	10	10	10	10	100	36	33
49	RomanoAve	_LaCostaDr	_LakeUnderhillRd	City	25	0	New	0.871532	On Street Bicycle Boulevard	10	10	10	70	10	65	33
92	AndreaBlvd	_GastonFosterRd	_RomanoAve	City	20	0	New	0.656666	On Street Bicycle Boulevard	10	10	10	70	10	66	33
148	Primrose Dr	_ERobinsonSt	_ELivingstonSt	City	35	3800	City GIS - F	0.377795	Bike Lanes (Buffered Preferred)	10	10	10	70	10	63	33
168	Church St	_SCottageHillRd	_SJohnYoungPkwy	City	30	0	City GIS - F	0.149611	Bike Lanes (Buffered Preferred)	10	10	10	10	100	37	33
232	McCoy Rd	_SGoldenrodRd	_PrimaryBikeRoute	Other	65	4200	New	2.403841	Off Street Trails or Separated Bike Lanes	10	10	100	70	10	22	33
243	Maguire Blvd	_MitchellNutterPark	_BennettRd	County	30	19300	City GIS - F	0.057822	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	63	33
263	Herndon Ave	_EConcordSt	_EColonialDr	City	15	0	City GIS - F	0.12839	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	64	33
264	PlannedTrail	_WColonialDr	_AlhambraDr	County	25	32000	City GIS - F	2.609359	Off Street Trails or Separated Bike Lanes	10	10	100	70	10	20	33
378	Windsor Pointe Dr	_VistaParkBlvd	_ExistingPath	City	25	0	New	0.297076	Off Street Trails or Separated Bike Lanes	10	10	100	70	10	18	33
455	GrandNationalDrBikeLane	_WOakRidgeRd	_CaravanCt	City	35	0	New	0.246478	Bike Lanes (Buffered Preferred)	10	10	50	70	10	45	33
480	SouthgateDr	_PresidentBarackObamaPkwy	_CasonCoveDr	City	30	0	New	0.594235	Bike Lanes (Buffered Preferred)	10	10	50	70	10	47	33
481	PrinceHallBlvd	_WillieMaysPkwy	_BrutonBlvd	City	25	0	New	0.840215	On Street Bicycle Boulevard	10	10	50	70	10	46	33
553	Vista Park Blvd Loop	Vista East Trail Connector			0	0	New	0.896241	Off Street Trails or Separated Bike Lanes	10	10	100	70	10	19	33
573					0	0	New	0.307895	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	67	33
15	Tampa Ave	_WashingtonSt	_WColonialDr	County	30	8700	New	0.592428	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	59	32
32	Lee Vista Blvd	_ConwayRd	_SSemoranBlvd	City	40	20300	New	1.311633	Off Street Trails or Separated Bike Lanes	10	10	10	10	100	30	32
50	LaCostaDr	_RomanoAve	_GlenwoodAve	City	35	0	New	0.941046	Bike Lanes (Buffered Preferred)	10	10	10	70	10	62	32
55	LakeDavisDr	_SummerlinAve	_SummerlinAve	City	25	0	New	0.583836	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	60	32
74	MarcastleAve	_LoringPl	_GastonFosterRd	City	25	0	New	0.473439	On Street Bicycle Boulevard	10	10	10	70	10	61	32
85	LenmoreSt	_MarcastleAve	_GastonFosterRd	City	25	0	New	0.219992	On Street Bicycle Boulevard	10	10	10	70	10	62	32
138	Rickenbacker Dr	_EConcordSt	_EColonialDr	City	35	0	City GIS - F	0.091992	Bike Lanes (Buffered Preferred)	10	10	10	70	10	61	32
217	Azelea Park Trail	Lake Underhill Path	Goldenrod	Other	35	15500	By Others	3.826577	Off Street Trails or Separated Bike Lanes	10	10	50	100	10	8	32
244	ChandlerSt	_BrutonBlvd	_SJohnYoungPkwy	Other	25	0	City GIS - F	0.633516	Off Street Trails or Separated Bike Lanes	10	10	50	70	10	41	32
344	PelicanLn	_IbisDr	_DoveDr	City	30	0	City GIS - F	0.509913	Bike Lanes (Buffered Preferred)	10	10	10	70	10	59	32
347	SLakeFormosaDr	_AldenRd	_HavenDr	City	25	0	City GIS - F	0.412446	Off Street Trails or Separated Bike Lanes	10	10	100	10	10	74	32
406	CardinalRdSignedRoute	_ChelseaSt	_FinchSt	City	25	0	New	0.510888	On Street Bicycle Boulevard	10	10	10	70	10	58	32

427	BrutonBlvd	_ChandlerSt	_CovingtonSt	City	35	19200	New	0.224667	Off Street Trails or Separated Bike Lanes	10	10	50	70	10	42	32
433	Binnacle Way	_LandstreetRd	_AvenueC	City	30	0	New	0.513438	Bike Lanes (Buffered Preferred)	10	10	50	70	10	40	32
448	Lawton Rd	_ExecutiveCenterDr	_McCroryPl	City	30	0	New	0.10284	Bike Lanes (Buffered Preferred)	10	10	10	70	10	62	32
476	LakeShoreDrSignedRoute	_ShrewsburyRd	_LakesideDr	City	25	0	New	0.175614	On Street Bicycle Boulevard	10	10	10	70	10	62	32
18	General Rees Ave	_CorrineDr	_GlenridgeWay	City	35	12000	New	0.753258	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	54	31
119	ClayAveBikeLane	_WilkinsonSt	_EParSt	County	30	8100	New	0.253804	Off Street Trails or Separated Bike Lanes	10	10	100	10	10	70	31
228	Highland Ave	Colonial Dr	Orange Ave	City	30	3900	New	0.581037	Off Street Trails or Separated Bike Lanes	10	10	100	10	10	69	31
292	Humphries Ave	_FairgreenSt	_EColonialDr	City	25	0	City GIS - F	0.064752	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	55	31
327	MarksSt	_NGarlandAve	_NMagnoliaAve	City	25	1600	City GIS - F	0.247402	On Street Bicycle Boulevard	10	10	100	10	10	72	31
567	Gatlin Ave	_OsceolaAve	_SConwayRd	City	30	11800	City GIS - F	2.15659	Bike Lanes (Buffered Preferred)	10	10	50	10	100	4	31
99	Legion Pl	_WeberSt	_SIvanhoeBlvd	State	30	10000	City GIS - F	0.147103	Off Street Trails or Separated Bike Lanes	10	100	10	10	10	72	31
9	International Dr	_UniversalBlvd	_OakRidgeRd	City	30	27000	New	0.812904	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	49	30
88	MonteCarloTrl	_SGoldwynAve	_SJohnYoungPkwy	City	25	0	New	0.216661	On Street Bicycle Boulevard	10	10	10	70	10	51	30
123	John Young Pkwy	_MartinAndersenBeachlineExpy	_AmericanaBlvd	County	45	69000	City GIS - F	4.48592	Off Street Trails or Separated Bike Lanes	10	10	50	10	100	0	30
132	Universal Blvd	_PlannedTrail	_SandLakeRd	County	45	34000	City GIS - F	2.948116	Off Street Trails or Separated Bike Lanes	10	10	50	10	100	0	30
179	Pine Hills Trail	_SilverStarRd	_ClarconaOcoeeRd	County	0	0	By Others	2.300304	Off Street Trails or Separated Bike Lanes	10	10	50	10	100	0	30
218	PrimaryBikeRoute	_LakeNonaBlvd	_PrimaryBikeRoute	Other	25	0	Primary Bi	1.988274	Off Street Trails or Separated Bike Lanes	100	10	10	10	10	20	30
286	PowerEasement	_LakeUnderhillRd	_ColonialDr	Other	0	0	By Others	3.308604	Off Street Trails or Separated Bike Lanes	10	10	50	100	10	0	30
326	LauraPl	_NBumbyAve	_CoyDr	City	25	0	City GIS - F	0.723964	On Street Bicycle Boulevard	10	10	100	10	10	66	30
355	SFerncreekAve	_LakeMargaretDr	_CurryFordRd	County	30	3800	City GIS - F	1.251601	Bike Lanes (Buffered Preferred)	10	10	50	70	10	30	30
389	PlannedTrail	_ShingleCreekTrail	_EofMiddlebrookRd	Other	0	0	New	0.271277	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	51	30
407	WKaleySt	_RioGrandeAveS	_SParramoreAve	County	0	2800	New	0.504165	On Street Bicycle Boulevard	10	10	50	100	10	0	30
449	Patch Rd	_LeeVistaBlvd	_HoffnerAve	Other	25	4600	New	0.570715	Bike Lanes (Buffered Preferred)	10	10	100	70	10	4	30
468	SFerncreekAveBikeLane	_PershingAve	_CurryFordRd	County	35	3800	New	0.502593	Bike Lanes (Buffered Preferred)	10	10	50	10	100	0	30
475	HarrisonAve&HelenAve	_NWIvanhoeBlvd	_WWinterParkSt	Other	25	13800	New	0.564784	On Street Bicycle Boulevard	10	10	100	10	10	67	30
529	75000155			City	30	27000	FDOT Wid	0.583039	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	50	30
596					0	0	New	0.453228	On Street Bicycle Boulevard	10	10	50	10	100	1	30
35	Heintzelman Blvd	_JeffFuquaBlvd	_MartinAndersenBeachlineExpy	City	35	8600	New	4.598242	Off Street Trails or Separated Bike Lanes	10	10	10	10	100	15	29
63	EPinelochSt	_SOrangeAve	_OsceolaAve	County	30	0	New	0.295356	Bike Lanes (Buffered Preferred)	10	10	10	10	100	13	29
65	SignalHillRd	_DonovanSt	_NorthLn	City	30	0	New	0.527428	Bike Lanes (Buffered Preferred)	10	10	10	70	10	46	29
71	PoppyAve	_EndofPoppyAve	_RaleighSt	City	30	0	New	0.360433	Bike Lanes (Buffered Preferred)	10	10	10	70	10	44	29
76	AaronAve	_KirklandBlvd	_ColumbiaSt	City	25	0	New	0.714129	On Street Bicycle Boulevard	10	10	10	70	10	45	29
77	KirklandBlvd	_AaronAve	_MantillaAve	City	25	0	New	0.165266	On Street Bicycle Boulevard	10	10	10	70	10	44	29
78	OUT West Segment	Shingle Creek Trail	Tampa Ave	City	25	0	New	0.418836	On Street Bicycle Boulevard	10	10	10	70	10	44	29
82	ColumbiaStreet	_CampanellaAve	_AaronAve	City	30	0	New	0.255071	Bike Lanes (Buffered Preferred)	10	10	10	70	10	46	29
176	Lakeview St	_EdgewaterDr	_WIvanhoeBlvd	City	30	11400	City GIS - F	0.396577	Off Street Trails or Separated Bike Lanes	10	10	100	10	10	59	29
318	Primrose Dr	_MichiganSt	_EAndersonSt	County	30	2600	New	1.703217	Off Street Trails or Separated Bike Lanes	10	10	50	70	10	24	29
353	BumbyAve	_CurryFordRd	_DellwoodDr	City	25	8600	City GIS - F	0.340579	Off Street Trails or Separated Bike Lanes	10	10	50	70	10	25	29
388	PlannedTrail	_MiddlebrookRd	_PlannedTrail	Other	0	0	New	0.407739	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	43	29
390	DurranceElementarySchoolConnection	_DurranceElementarySchool	_PrimaryBikeRoute	Other	0	0	New	0.12663	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	46	29
405	KingColeBlvd	_WillieMaysPkwy	_AaronAve	City	30	0	New	0.29896	Bike Lanes (Buffered Preferred)	10	10	10	70	10	44	29
446	WestgateDr	_RaleighSt	_SKirkmanRd	Other	30	59000	New	1.117678	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	43	29
528	75000106			City	40	28000	FDOT Wid	1.004773	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	47	29
45	Wetherbee Rd	_SOrangeAve	_BoggyCreekRd	County	0	16700	New	3.066861	Off Street Trails or Separated Bike Lanes	10	100	10	70	10	1	29
24	Hollywood Way	_TurkeyLakeRd	_UniversalBlvd	City	35	23500	New	0.686833	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	39	28
54	DellwoodDr/HargilDr	_GoreSt	_ConwayRd	City	25	0	New	1.490154	On Street Bicycle Boulevard	10	10	10	70	10	38	28
90	SignalHillRoadEnd	_PointLookOutRd	_End	City	30	0	New	0.071515	Bike Lanes (Buffered Preferred)	10	10	10	70	10	38	28
156	Primrose Dr	_CurryFordRd	_ESouthSt	County	25	2600	City GIS - F	1.003358	Bike Lanes (Buffered Preferred)	10	10	10	70	10	39	28
197	Boggy Creek Rd	_TradeportDr	_McCoyRd	City	35	17600	City GIS - F	3.001802	Off Street Trails or Separated Bike Lanes	10	10	50	70	10	20	28
230	LakeviewSt	_EdgewaterDr	_WIvanhoeBlvd	City	30	11400	New	0.699448	Off Street Trails or Separated Bike Lanes	10	10	100	10	10	57	28
249	PlannedTrail/LakeParkCt	_BrutonBlvd	_MonteCarloTrl	Other	25	0	City GIS - F	1.182722	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	42	28
287	President Barack Obama Pwky	_WashingtonStW	_SofMissionRdS	Other	25	18800	City GIS - F	1.518474	Off Street Trails or Separated Bike Lanes	10	10	50	70	10	19	28
322	PrimaryBikeRoute	_HeintzelmanBlvd	_OrlandoInternationalAirport	Other	35	37500	Primary Bi	2.161814	Off Street Trails or Separated Bike Lanes	100	10	10	10	10	11	28
324	CommonWayRd	_LakeSusannah	_BaldwinParkLn	City	0	0	City GIS - F	0.091895	On Street Bicycle Boulevard	10	10	100	10	10	53	28
425	DartmouthSt	_NWestmorelandDr	_EdgewaterDr	City	25	0	New	0.251239	On Street Bicycle Boulevard	10	10	100	10	10	56	28
426	WNewHampshireSt/EdgewaterDr	_NWestmorelandDr	_DartmouthSt	City	25	11400	New	0.281875	Off Street Trails or Separated Bike Lanes	10	10	100	10	10	56	28
432	Avenue C	_PrimaryBikeRoute	_TradeportDr	City	25	0	New	1.319516	On Street Bicycle Boulevard	10	10	10	70	10	42	28
434	Landstreet Rd	_BinnacleWay	_AvenueC	City	35	0	New	0.460288	Bike Lanes (Buffered Preferred)	10	10	10	70	10	40	28
478	HelenAve	_WPrincetonSt	_WParSt	City	25	0	New	0.527085	On Street Bicycle Boulevard	10	10	100	10	10	57	28
482	LescotLn	_DeerockDr	_RaleighSt	City	25	0	New	0.411666	On Street Bicycle Boulevard	10	10	10	70	10	42	28
484	WillieMaysPkwy	_KirklandBlvd	_NofCepedaSt	City	30	0	New	0.585313	Bike Lanes (Buffered Preferred)	10	10	10	70	10	42	28
521	MeetingPl	_LakeSusannah	_LakemontAve	City	25	0	City GIS - F	0.348075	On Street Bicycle Boulevard	10	10	100	10	10	54	28
534	75260000			State	45	24500	FDOT Wid	1.908708	Off Street Trails or Separated Bike Lanes	10	10	10	10	100	8	28
294	PlannedTrail	_WNewHampshireSt	_OrangeBlossomTrlN	Other	0	0	City GIS - F	0.430354	Off Street Trails or Separated Bike Lanes	10	100	50	10	10	33	28
303	WPrincetonSt	_LynxLn	_WSmithSt	Other	45	19200	City GIS - F	0.422335	Off Street Trails or Separated Bike Lanes	10	100	50	10	10	34	28
12	Lake Orlando Pkwy	_NorthLn	_CinderlanePkwy	City	30	9400	New	0.860185	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	36	27

72	WillieMaysPkwy	_LBMcLeodRd	_KirklandBlvd	City	30	0	New	0.525454	Bike Lanes (Buffered Preferred)	10	10	10	70	10	36	27
270	Lower Park Rd	_GeneralReesAve	_LakemontAve	City	25	0	City GIS - F	0.746509	Off Street Trails or Separated Bike Lanes	10	10	100	10	10	52	27
285	RegentSt	_WPrincetonSt	_OrangeBlossomTrlN	Other	25	9500	City GIS - F	0.683818	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	33	27
304	ShadyLaneDr&WIvanhoeBlvd	_OrangeBlossomTrlN	_LakeviewSt	City	25	1500	City GIS - F	0.970784	On Street Bicycle Boulevard	10	10	100	10	10	51	27
306	NLakeFormosaDr	_NLakeFormosaDr	_EPrincetonSt	City	25	0	City GIS - F	0.50975	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	75	27
412	NWestmorelandDr	_LakeAdairBlvdN	_BrynMawrSt	City	30	1200	New	0.948131	Bike Lanes (Buffered Preferred)	10	10	100	10	10	51	27
486	SCottageHillRd	_CRSmithSt	_WCentralAve	City	25	0	New	0.519849	On Street Bicycle Boulevard	10	10	10	70	10	37	27
494	NorthumberlandAve	_WNewHampshireSt	_BrynMawrSt	City	25	0	New	0.497814	On Street Bicycle Boulevard	10	10	100	10	10	49	27
533	75190003			County	45	69000	FDOT Wid	2.127028	Off Street Trails or Separated Bike Lanes	10	10	10	10	100	6	27
539	75190000			State	55	55000	FDOT Wid	0.728751	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	34	27
13	Mercy Dr	_WColonialDr	_PrincetonSt	City	35	11700	New	0.798695	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	29	26
26	Conroy Rd	_EastgateDr	_SJohnYoungPkwy	County	35	41000	New	0.50633	Off Street Trails or Separated Bike Lanes	10	10	10	10	100	0	26
198	Princeton St	_SmithSt	_NRioGrandeAve	State	30	7600	City GIS - F	0.114094	Off Street Trails or Separated Bike Lanes	10	10	100	10	10	43	26
231	Landstreet Rd	_SOrangeAve	_WichitaPl	County	45	11300	New	1.405998	Off Street Trails or Separated Bike Lanes	10	10	50	70	10	8	26
242	PowerEasement	_GlenVillageCt	_CentralFloridaGreenway	Other	0	0	City GIS - F	2.615561	Off Street Trails or Separated Bike Lanes	10	10	50	70	10	8	26
250	CadyWayTrailConnection	_CadyWayTrail	_WoodcockRd	Other	0	0	City GIS - F	0.051625	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	69	26
265	Econlockhatchee Trl	_CommunityCenterDr	_PrimaryBikeRoute	City	0	16200	Primary Bi	0.244079	Off Street Trails or Separated Bike Lanes	100	10	10	10	10	0	26
299	PrimaryBikeRoute	_PlannedTrail	_MossParkRd	Other	0	0	Primary Bi	2.504483	Off Street Trails or Separated Bike Lanes	100	10	10	10	10	0	26
348	CenterportSt	_AvenueC	_TradeportDr	City	30	0	City GIS - F	0.140929	Bike Lanes (Buffered Preferred)	10	10	10	70	10	31	26
360	WDJudgeDr	_LawneBlvd	_MercyDr	Other	25	0	City GIS - F	0.301669	On Street Bicycle Boulevard	10	10	10	70	10	31	26
511	Edgewater Dr	_WParSt	_AllAmericanBlvd	Other	30	24500	New	0.989245	Off Street Trails or Separated Bike Lanes	10	10	10	10	100	0	26
595					0	0	New	0.157651	On Street Bicycle Boulevard	10	10	50	10	10	68	26
552	Primrose Cady Way Trail Connector	Rosedale St	Illinois St		0	0	New	0.251272	On Street Bicycle Boulevard	10	10	50	10	10	69	26
1	Goldenrod Rd	_McCoyRd	_HoffnerAve	Other	45	12400	New	2.00658	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	27	25
135	Bumby Ave	_PershingAve	_CurryFordRd	County	30	5200	City GIS - F	1.7574	Bike Lanes (Buffered Preferred)	10	10	50	70	10	6	25
161	Dixie Belle Dr	_PershingAve	_CurryFordRd	County	40	13200	City GIS - F	1.755089	Off Street Trails or Separated Bike Lanes	10	10	100	10	10	40	25
181	Caravan Ct	_MajorBlvd	_GrandnationalDr	City	35	0	City GIS - F	0.206103	Bike Lanes (Buffered Preferred)	10	10	100	10	10	41	25
272	Alden Rd	_OrangeAve	_LakeFormosaDr	City	25	12400	City GIS - F	0.467481	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	67	25
280	PowerEasement	_ShingleCreekRegionalPark	_WOakRidgeRd	County	65	0	City GIS - F	15.65327	Off Street Trails or Separated Bike Lanes	10	10	50	70	10	3	25
352	BumbyAve	_GoreSt	_LakeComoCir	City	25	8600	City GIS - F	0.244251	Off Street Trails or Separated Bike Lanes	10	10	100	10	10	40	25
367	Orlando Urban Trail Connection	_LakeHighlandCir	_AldenRd	Other	0	0	New	0.073928	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	63	25
424	Lee Vista Blvd	_PassaicPkwy	_SEconlockhatcheeTrail	City	45	26000	New	1.0737	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	23	25
435	Avenue C	_8thSt	_5thSt	City	35	0	New	0.461054	Bike Lanes (Buffered Preferred)	10	10	10	70	10	27	25
436	Great Sound Dr	_DowdenRd	_LandstreetRd	City	30	0	New	0.570915	Bike Lanes (Buffered Preferred)	10	10	10	70	10	26	25
540	75190000			State	55	42500	FDOT Wid	0.554619	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	26	25
44	Highland Ave	Amelia St	Colonial Dr	City	25	3900	New	0.392178	Bike Lanes (Buffered Preferred)	10	10	10	10	10	79	24
131	Goldenrod Rd	_HoffnerAve	_ColonialDr	County	45	43000	City GIS - F	6.318694	Off Street Trails or Separated Bike Lanes	10	10	50	70	10	1	24
188	Greenbriar Pkwy	_WSandLakeRd	_GolfChannelDr	City	35	7100	City GIS - F	0.191852	Off Street Trails or Separated Bike Lanes	10	10	100	10	10	34	24
189	Shadowridge Dr	_ForbesPl	_LeeVistaBlvd	City	30	1400	City GIS - F	0.600578	Off Street Trails or Separated Bike Lanes	10	10	100	10	10	35	24
279	Rhode Island Woods Cir	_ShingleCreekRegionalPark	_BoggyCreekRd	County	0	7100	City GIS - F	11.84253	Off Street Trails or Separated Bike Lanes	10	10	50	70	10	0	24
395	Chickasaw Trl	_HastingsBeachBlvd	_MattituckCir	County	30	12200	New	1.804023	Off Street Trails or Separated Bike Lanes	10	10	50	70	10	0	24
396	Vista East Trail Connector	Lee Vista Blvd	Vista East Trail	Other	0	0	New	1.07027	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	19	24
423	Boggy Creek Rd	_TradeportDr	_TradeportDr	City	35	17600	New	1.317506	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	22	24
431	Dowden Rd	_BoggyCreekRd	_PrimaryBikeRoute	City	40	0	New	0.837903	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	18	24
457	PeregrineAve	_VinelandRd	_WindhoverDr	City	30	0	New	0.100495	Bike Lanes (Buffered Preferred)	10	10	100	10	10	35	24
490	FernwoodStSignedRoute	_SOrangeAve	_DelaneyAve	City	25	0	New	0.250104	On Street Bicycle Boulevard	10	10	10	10	10	82	24
10	Shader Rd	_Mercy Dr	John Young Parkway	City	25	7600	New	0.888471	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	15	23
80	LongRd	_NLakeOrlandoPkwy	_TeresaRd	Other	30	0	New	0.587258	Bike Lanes (Buffered Preferred)	10	10	10	70	10	15	23
81	DadeAve	_EKingSt	_EGrovelandSt	City	25	0	New	0.170763	On Street Bicycle Boulevard	10	10	10	10	10	73	23
139	PlannedBikeLane	_LaureateBlvd	_PlannedBikeLane	Other	0	0	City GIS - F	0.628239	Bike Lanes (Buffered Preferred)	10	10	100	10	10	30	23
391	Jetport Dr	_DurranceElementarySchool	_BeachlineExpy	County	0	13500	New	0.340004	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	14	23
489	NottinghamStSharedRoute	_NMillsAve	_MiddlesexRd	City	25	0	New	0.429407	On Street Bicycle Boulevard	10	10	50	10	10	54	23
582	DelaneyParkDr	_DelaneyAve	_SSummerlinAve	City	25	0	New	0.100905	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	74	23
46	GrovelandStSignedRoute	_DadeAve	_ClayAve	City	20	0	New	0.081537	On Street Bicycle Boulevard	10	10	10	10	10	72	22
79	EMarksSt	_Magnolia	_FerncreekAve	City	30	1600	New	1.001202	Bike Lanes (Buffered Preferred)	10	10	10	10	10	68	22
84	DelaneyParkDr	_DelaneyAve	_SSummerlinAve	City	25	0	New	0.150542	On Street Bicycle Boulevard	10	10	10	10	10	68	22
91	LakeHighland	_FerrisAve	_NFernCreekAve	City	25	3900	New	0.481415	Bike Lanes (Buffered Preferred)	10	10	10	10	10	70	22
95	GurtlerCt	_NElvanhoeBlvd	_ENewHampshireSt	City	20	0	New	0.132911	On Street Bicycle Boulevard	10	10	10	10	10	68	22
195	Dowden Rd	_GreenshireWay	_NarcoosseeRd	City	40	0	City GIS - F	1.467783	Off Street Trails or Separated Bike Lanes	10	10	100	10	10	24	22
393	Dakota Dr	_HazeltineNationalDr	_NarcooseeRd	County	0	0	New	0.487053	On Street Bicycle Boulevard	10	10	10	70	10	8	22
410	Trail	_VirginiaDr	_NofVirginiaDr	County	25	0	New	0.007227	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	68	22
487	HamptonAveSignedRoute	_WeberSt	_VirginiaDr	City	30	0	New	0.565044	Bike Lanes (Buffered Preferred)	10	10	10	10	10	68	22
501	DakotaDr	_HazeltineNationalDr	_NarcooseeRd	County	45	0	City GIS - F	0.461942	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	8	22
520	IllinoisSt	_NFerncreekAve	_CoyDr	City	30	0	New	0.778628	On Street Bicycle Boulevard	10	10	10	10	10	68	22
523	75000185			City	35	6100	FDOT Wid	0.270975	Bike Lanes (Buffered Preferred)	10	10	10	10	10	69	22
4	LeeVista Blvd	_CentralFloridaGreenway	_EndofRoad	City	45	0	New	0.598494	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	6	21

61	WestchesterAve	_PrimaryBikeRoute	_NOrangeAve	City	25	0	New	1.294201	On Street Bicycle Boulevard	10	10	10	10	10	64	21
62	TerraceBlvd	_EMarksSt	_LakeHighlandDr	City	25	0	New	0.378313	On Street Bicycle Boulevard	10	10	10	10	10	63	21
275	Walcott Ave	_CanettiSt	_GaborAve	City	25	0	City GIS - F	0.830321	Off Street Trails or Separated Bike Lanes	10	10	100	10	10	21	21
315	PlannedTrail	_LaureateBlvd	_TavistockLakesBlvd	Other	25	0	City GIS - F	0.481012	Off Street Trails or Separated Bike Lanes	10	10	100	10	10	18	21
323	CampanellaAve	_ColumbiaSt	_RaleighSt	County	0	0	City GIS - F	0.059944	On Street Bicycle Boulevard	10	10	10	70	10	4	21
404	FortJeffersonBlvdSignedRoute	_VistaLakesElementary	_GoldenrodRd	County	25	0	New	2.003683	On Street Bicycle Boulevard	10	10	10	70	10	6	21
430	GolfviewSt	_NorthumberlandAve	_NWestmorelandDr	City	30	0	New	0.247562	Bike Lanes (Buffered Preferred)	10	10	50	10	10	47	21
454	GrandNationalDrBikeLane	_CaravanCt	_MajorBlvd	City	35	0	New	0.17093	Bike Lanes (Buffered Preferred)	10	10	50	10	10	44	21
505	GlenridgeWay	_GrayAve	_RaymondSt	City	30	7700	New	0.461564	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	4	21
583					0	0	New	0.170577	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	44	21
584					0	0	New	0.211716	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	47	21
592					0	0	New	0.272611	On Street Bicycle Boulevard	10	10	10	10	10	66	21
593					0	0	New	0.248939	On Street Bicycle Boulevard	10	10	10	10	10	66	21
130	Orange Ave	_CentralFloridaGreenway	_SandLakeRd	County	45	33000	City GIS - F	5.968965	Off Street Trails or Separated Bike Lanes	10	100	50	10	10	1	21
150	Orange Ave	_McCoyRd	_ELancasterRd	State	0	40000	City GIS - F	1.033427	Off Street Trails or Separated Bike Lanes	10	100	50	10	10	0	21
598					0	0	New	1.583164	Off Street Trails or Separated Bike Lanes	10	100	50	10	10	0	21
133	Mercy Dr	_PrincetonSt	_SeaboardRd	City	35	11700	City GIS - F	0.717083	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	0	20
282	PowerEasement	_LaureateBlvd	_NarcoosseeRd	Other	40	0	City GIS - F	3.304649	Off Street Trails or Separated Bike Lanes	10	10	100	10	10	17	20
399	SWestmorelandDr	_25thSt	_WMillerAve	County	0	3900	New	0.250354	Bike Lanes (Buffered Preferred)	10	10	10	70	10	0	20
469	EMichiganStBikeLane	_DixieBelleDr	_SSemoranBlvd	City	35	6000	New	0.249382	Bike Lanes (Buffered Preferred)	10	10	50	10	10	40	20
586	SWestmorelandDr	_25thSt	_WMillerAve	County	0	3900	New	0.25001	Off Street Trails or Separated Bike Lanes	10	10	10	70	10	2	20
38	Par St	_EdgewaterDr	_OrangeAve	City	35	12200	New	0.996168	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	53	19
59	DartmouthSt	_NWestmorelandDr	_HarrisonAve	City	25	0	New	0.632815	On Street Bicycle Boulevard	10	10	10	10	10	57	19
86	SLakeAdairBlvd	_NWestmorelandDr	_EdgewaterDr	City	20	0	New	0.326179	On Street Bicycle Boulevard	10	10	10	10	10	53	19
87	LakeAdairBlvdN	_NWestmorelandDr	_EdgewaterDr	City	20	0	New	0.257612	On Street Bicycle Boulevard	10	10	10	10	10	53	19
477	SavannahParkDrSignedRoute	_NarcoosseeRd	_LakeDistrictLn	City	25	0	New	0.599017	On Street Bicycle Boulevard	10	10	100	10	10	12	19
36	Princeton St	_NRioGrandeAve	_SmithSt	State	30	7600	New	0.925227	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	52	18
51	GoreSt	_LakeDavisDr	_BumbyAve	City	25	0	New	0.810366	On Street Bicycle Boulevard	10	10	10	10	10	49	18
64	CurryFordRd	_LancasterDr	_HazelwoodDr	City	25	8700	New	0.219012	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	49	18
152	PlannedBikeLane	_PlannedBikeLane	_LaureateBlvd	Other	0	0	City GIS - F	0.147853	Bike Lanes (Buffered Preferred)	10	10	50	10	10	29	18
193	Orange Ave	_ClaySt	_NMillsAve	State	35	14100	City GIS - F	0.703558	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	30	18
253	PlannedTrail	_PlannedTrail	_LaureateBlvd	Other	0	0	City GIS - F	1.001253	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	29	18
254	PlannedTrail	_PlannedTrail	_PlannedTrail	Other	0	0	City GIS - F	1.350684	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	29	18
266	PlannedTrail	_PlannedTrail	_LaureateBlvd	Other	0	0	City GIS - F	0.391128	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	32	18
295	PlannedTrail	_WNewHampshireSt	_IndustrialWay	Other	0	0	City GIS - F	0.226748	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	32	18
375	Dowden Rd	_CentralFloridaGreenway	_InnovationWay	Other	65	83000	Removed	2.448484	Removed	10	10	100	10	10	3	18
383	PlannedTrail	_EmeraldForestWay	_SofEmeraldForestWay	Other	0	0	New	0.013369	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	49	18
451	Sherwood Rd	_DorchesterSt	_NottinghamSt	City	25	0	New	0.304407	On Street Bicycle Boulevard	10	10	10	10	10	52	18
601	Dowden Rd	_CentralFloridaGreenway	_InnovationWay	Other	65	83000	New	0.611149	Off Street Trails or Separated Bike Lanes	10	10	100	10	10	7	18
110	Hoffner Ave	_SOrangeAve	_SConwayRd	County	0	17700	City GIS - F	2.853385	Off Street Trails or Separated Bike Lanes	10	10	100	10	10	0	17
251	PlannedTrail	_LakeNonaBlvd	_TavistockLakesBlvd	Other	25	0	City GIS - F	1.970629	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	24	17
252	PlannedTrail	_PrimaryBikeRoute	_LakeNonaBlvd	Other	0	0	City GIS - F	1.11706	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	25	17
255	PlannedTrail	_PlannedTrail	_LaureateBlvd	Other	0	0	City GIS - F	0.939911	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	24	17
371	AlhambraDr/DeauvilleDr	_FerndellRd	_NofBurgundyLn	County	15	0	New	0.814704	On Street Bicycle Boulevard	10	10	100	10	10	0	17
373	PlannedTrail	_ShingleCreekTrail	_SouthgateDr	Other	0	0	New	0.02124	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	46	17
384	PlannedTrail	_PlannedTrail	_SouthlawnAve	Other	0	0	New	0.098332	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	44	17
385	PlannedTrail	_EofCypressFairway	_PlannedTrail	Other	0	0	New	0.253963	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	43	17
386	Trail	_EofCypressFairway	_NofVinelandRd	Other	0	0	New	0.009562	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	43	17
398	Dennings Dr	_NottinghamSt	_GroverAve	Other	0	0	New	0.035838	On Street Bicycle Boulevard	10	10	10	10	10	45	17
400	Lakemont Ave	_GlenridgeWay	_GlenridgeWay	City	0	7700	New	0.053518	Off Street Trails or Separated Bike Lanes	10	10	100	10	10	0	17
413	Narcoossee Rd	_ClappSimmsDudaRd	_SanctuaryViewTrl	County	45	38500	New	0.622155	Off Street Trails or Separated Bike Lanes	10	10	100	10	10	0	17
502	BoggyCreekRd	_SimpsonRd	_CentralFloridaGreenway	County	45	32500	City GIS - F	1.398764	Off Street Trails or Separated Bike Lanes	10	10	100	10	10	1	17
515	PlannedTrail	_NemoursPkwy	_GaborAve	Other	25	0	New	0.231816	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	24	17
537	75003000			State	0	56000	FDOT Wid	0.010023	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	47	17
8	Greenbriar Pkwy	_GolfChannelDr	_CarrierDr	City	35	7100	New	0.471256	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	40	16
23	Major Blvd	_UniversalBlvd	_VinelandRd	City	30	10400	New	0.963978	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	42	16
47	ConwayRd	_HargillDr	_LoringPl	State	40	0	New	0.015102	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	40	16
60	SFerncreekAve	_LancasterDr	_BriercliffDr	City	30	5800	New	0.117085	Bike Lanes (Buffered Preferred)	10	10	10	10	10	42	16
67	WYateSt/NRioGrandeAve/MaurySt	_NWestmorelandDr	_EdgewaterDr	Other	20	9900	New	1.940535	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	38	16
144	PlannedTrail	_NemoursPkwy	_NarcosseeRd	Other	25	0	City GIS - F	1.844429	Bike Lanes (Buffered Preferred)	10	10	50	10	10	20	16
289	PlannedTrail	_PlannedBikeLane	_PlannedTrail	Other	0	0	City GIS - F	0.281056	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	19	16
382	PlannedTrail	_MiddlebrookRd	_ExistingTrail	Other	0	0	New	0.09106	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	39	16
387	ConroyRd	_WofMiddlebrookRd	_MiddlebrookRd	Other	0	0	New	0.359454	On Street Bicycle Boulevard	10	10	10	10	10	39	16
411	WNewHampshireSt	_OrangeBlossomTrlN	_NWestmorelandDr	City	25	0	New	0.809868	On Street Bicycle Boulevard	10	10	10	10	10	42	16
414	Upper Harden Ave	_PrimaryBikeRoute	_SnellLn	City	25	0	New	0.420615	On Street Bicycle Boulevard	10	10	50	10	10	18	16
463	InternationalDrBikeLane	_WSandLakeRd	_UniversalBlvd	County	30	27000	New	1.063565	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	19	16

66	NeptineDr	_MauryRd	_AnchorCt	City	25	0	New	0.460717	On Street Bicycle Boulevard	10	10	10	10	10	37	15
153	PlannedBikeLane	_BoggyCreekRd	_LaureateBlvd	Other	0	0	City GIS - F	1.305421	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	15	15
271	Dixie Belle Dr	_GatlinAve	_PershingAve	City	40	10700	City GIS - F	0.251135	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	36	15
274	Granger Ave	_TavistockLakesBlvd	_UpperHardenAve	City	25	0	City GIS - F	0.85668	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	17	15
290	PlannedTrail	_PlannedTrail	_PlannedTrail	Other	0	0	City GIS - F	1.451827	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	15	15
314	PlannedTrail	_PlannedTrail	_LaureateBlvd	Other	0	0	City GIS - F	0.558903	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	14	15
377	PlannedTrail	_BoggyCreekRd	_PrimaryBikeRoute	Other	0	0	New	1.027648	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	16	15
465	WindhoverDr	_PeregrineAve	_SKirkmanRd	City	30	0	New	0.364672	Bike Lanes (Buffered Preferred)	10	10	10	10	10	36	15
504	Peregrine Ave	_SandcrestCir	_WindhoverDr	City	30	0	New	0.562263	Bike Lanes (Buffered Preferred)	10	10	10	10	10	36	15
590					0	0	New	0.427443	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	36	15
140	PowerEasement	_BoggyCreekRd	_LaureateBlvd	Other	0	0	City GIS - F	0.596834	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	9	14
141	BikeLaneConnection	_PlannedBikeLane	_NarcoosseeRd	Other	0	0	City GIS - F	0.259685	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	11	14
381	PlannedTrail	_OakChaseCt	_WestbrookWilsonApartments	Other	0	0	New	0.150223	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	31	14
516	Laureate Blvd	_MedicalCityDr	_NarcoosseeRd	City	25	7900	New	0.793766	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	29	14
518	PowerEasement	_CountyBoundary	_NarcoosseeRd	Other	40	0	City GIS - F	0.610024	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	11	14
229	LakeMargaretDr	_SFerncreekAve	_DixieBelleDr	County	35	5300	City GIS - F	2.765924	Bike Lanes (Buffered Preferred)	10	10	50	10	10	3	13
293	PlannedTrail	_WNewHampshireSt	_WPrincetonSt	Other	0	0	City GIS - F	0.342856	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	27	13
330	Arthur Ave	Neptune Dr	Edgewater Dr	City	25	0	City GIS - F	0.39	On Street Bicycle Boulevard	10	10	10	10	10	27	13
421	DowdenRd	_PrimaryBikeRoute	_PrimaryBikeRoute	City	45	6800	New	1.026334	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	24	13
517	Laureate Blvd	_MedicalCityDr	_NarcoosseeRd	City	25	7900	New	0.623011	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	27	13
577					0	0	New	0.488163	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	23	13
100	WilkesAve	_WoodbrineDr	_LaBelleSt	Other	0	0	City GIS - F	0.188751	On Street Bicycle Boulevard	10	10	50	10	10	0	12
101	WalthamAve	_SOrangeAve	_HoffnerAve	County	0	0	City GIS - F	0.393828	On Street Bicycle Boulevard	10	10	50	10	10	0	12
102	RandolphAve	_SOrangeAve	_HoffnerAve	County	0	0	City GIS - F	0.867924	On Street Bicycle Boulevard	10	10	50	10	10	0	12
103	Nela Ave	_SOrangeAve	_DaetwylerDr	Other	0	2000	City GIS - F	1.928349	On Street Bicycle Boulevard	10	10	50	10	10	0	12
104	MatchettRd	_RandolphAve	_NelaAve	County	0	0	City GIS - F	0.823506	On Street Bicycle Boulevard	10	10	50	10	10	0	12
106	LakeDr	_StaffordDr	_MatchettRd	Other	0	0	City GIS - F	1.183097	On Street Bicycle Boulevard	10	10	50	10	10	0	12
108	PerkinsRd	_SOrangeAve	_LakeDr	County	0	0	City GIS - F	0.712938	On Street Bicycle Boulevard	10	10	50	10	10	0	12
109	Belle Isle Trail	_EWallaceSt	_WalthamAve	Other	0	0	City GIS - F	0.189432	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	0	12
111	Belle Isle Trail	_WindWillowRd	_TrentwoodBlvd	Other	0	0	City GIS - F	0.146055	On Street Bicycle Boulevard	10	10	50	10	10	0	12
113	WestpointeBlvd	_SteerLakeRd	_HaiwasseeRdS	City	20	12400	New	0.989768	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	18	12
125	Perimeter Rd	_UniversalBlvd	_WSandLakeRd	County	40	0	City GIS - F	1.404097	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	0	12
126	Power Easement	_LockheedMartinBlvd	_WSandLakeRd	County	0	0	City GIS - F	0.917041	Bike Lanes (Buffered Preferred)	10	10	50	10	10	0	12
127	Destination Pkwy	_InternationalDr	_UniversalBlvd	County	0	0	City GIS - F	1.147778	Bike Lanes (Buffered Preferred)	10	10	50	10	10	0	12
128	Tradeshow Rd	_DestinationPkwy	_UniversalBlvd	County	0	0	City GIS - F	0.617525	Bike Lanes (Buffered Preferred)	10	10	50	10	10	0	12
129	Lockheed Martin Blvd	_UniversalBlvd	_PlannedBikeLane	County	0	0	City GIS - F	1.186924	Bike Lanes (Buffered Preferred)	10	10	50	10	10	0	12
220	CurryFordRdConcept	_SGoldenrodRd	_PrimaryBikeRoute	County	0	33000	New	2.412399	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	0	12
256	PlannedTrail	_PlannedTrail	_PlannedTrail	Other	0	0	City GIS - F	0.60542	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	22	12
257	PowerEasement	_PlannedTrail	_EColonialDr	Other	0	0	By Others	1.032816	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	0	12
261	Boggy Creek Rd	_PlannedTrail	_WetherbeeRd	County	45	16500	City GIS - F	1.408894	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	0	12
267	Destination Pkwy	_UniversalBlvd	_JohnYoungPkwy	County	0	0	City GIS - F	1.307331	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	0	12
281	John Young Pkwy	_TownLoopBlvd	_TaftVinelandRd	County	0	77000	City GIS - F	2.751008	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	0	12
288	Destination Pkwy	_InternationalDr	_PlannedTrail	County	0	0	City GIS - F	2.251039	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	0	12
325	WLivingstonSt/WilmerAve/WashingtonStW	_EndofWLivingstonSt	_PineHillsRdN	County	0	0	City GIS - F	0.674554	On Street Bicycle Boulevard	10	10	50	10	10	0	12
374	Performance Dr	_PrimaryBikeRoute	_USTABlvd	Other	25	0	New	0.294859	On Street Bicycle Boulevard	10	10	10	10	10	22	12
376	PlannedTrail	_ExistingTrail	_TavistockLakesBlvd	Other	0	0	New	0.579515	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	18	12
380	NPineHillsRd	_WashingtonStW	_DeauvilleDr	County	0	18800	New	0.897669	Off Street Trails or Separated Bike Lanes	10	10	50	10	10	0	12
394	Redditt Rd	_HoffnerAve	_PershingAve	County	0	0	New	1.515583	On Street Bicycle Boulevard	10	10	50	10	10	0	12
403	AnthonyLaneSignedRoute	_SGoldenrodRd	_SChickasawTrail	County	0	0	New	1.37835	On Street Bicycle Boulevard	10	10	50	10	10	0	12
34	Dowden Rd	_NarcoosseeRd	_LakeDistrictLn	City	45	6800	New	1.59647	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	17	11
70	WespointeBlvd	_WestpointeCir	_HiawasseeRdS	City	40	12400	New	1.414817	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	16	11
114	WestpointeBlvd	_VistRoyalBlvd	_LakeVilmaDr	City	40	0	New	0.134716	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	16	11
416	Weller Blvd	_PrimaryBikeRoute	_NarcoosseeRdr	City	25	0	New	0.276019	On Street Bicycle Boulevard	10	10	10	10	10	16	11
438	McCoy Rd	_DaetwylerDr	_TradeportDr	County	40	16800	New	0.329958	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	15	11
69	WestpointeCir	_WestpointeBlvd	_WestpointeBlvd	City	20	0	New	0.502057	On Street Bicycle Boulevard	10	10	10	10	10	9	10
97	LakeDistrictLn	_TownLakeDr	_GreenIvyLn	City	25	0	New	0.68127	On Street Bicycle Boulevard	10	10	10	10	10	10	10
142	PowerEasement	_BoggyCreekRd	_PlannedBikeLane	Other	0	0	City GIS - F	0.493294	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	10	10
341	CurryFordRd	_BelmontDr	_WarwickPl	City	25	8700	City GIS - F	0.15601	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	10	10
415	DowdenRd	_PrimaryBikeRoute	_RandalParkBlvd	City	45	6800	New	0.443104	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	10	10
464	CarrierDrBikeLane	_InternationalDr	_UniversalBlvd	City	30	5000	New	0.387585	Bike Lanes (Buffered Preferred)	10	10	10	10	10	12	10
576					0	0	New	2.777238	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	7	9
41	Hansel Ave	_PrinceSt	_OakkLynnDr	State	0	25000	New	1.096192	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	0	8
105	HomewoodDr	_NelaAve	_NelaAve	Other	0	0	City GIS - F	0.478656	On Street Bicycle Boulevard	10	10	10	10	10	0	8
107	FlowertreeRd	_PlannedTrail	_DaetwylerDr	Other	0	0	City GIS - F	0.907185	On Street Bicycle Boulevard	10	10	10	10	10	0	8
136	Texas Ave	_WOakRidgeRd	_HoldenAve	County	25	11500	City GIS - F	1.506158	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	0	8
145	Econlockhatchee Trl	_PrimaryBikeRoute	_CurryFordRd	County	0	16200	City GIS - F	0.779164	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	0	8

146	N Pine Hills Rd	_WColonialDr	_AlahambraDr	County	0	36500	City GIS - F	0.103727	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	0	8
245	PowerEasement	_CentralFloridaPkwy	_PlannedTrail	County	0	0	City GIS - F	0.301669	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	0	8
262	Moss Park Rd	_PrimaryBikeRoute	_LakeMaryJaneRd	County	0	0	City GIS - F	0.330989	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	0	8
276	Clapp Simms Duda Rd	_NarcoosseeRd	_PlannedTrail	County	25	0	City GIS - F	2.235842	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	0	8
284	SOrangeAve	_SandLakeRd	_OfficeCt	State	0	40000	City GIS - F	0.285697	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	0	8
291	Partridge Ln	_SemoranBlvd	_ForsythRd	Other	0	0	City GIS - F	0.980812	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	0	8
392	NeighborhoodConnection	_AbercornDr	_KenedyAve	Other	0	0	New	0.091015	On Street Bicycle Boulevard	10	10	10	10	10	0	8
397	Lakeside Dr Connection	_LakesideDr	_MaplewoodDr	County	0	0	New	0.029568	On Street Bicycle Boulevard	10	10	10	10	10	0	8
437	Jetport Dr	_BoggyCreekRd	_BenrusSt	County	35	13500	New	0.282833	Off Street Trails or Separated Bike Lanes	10	10	10	10	10	0	8
0	Downtown Gap	Downtown Connector	Gertrudes Walk		0	0		0.62913	Off Street Trails or Separated Bike Lanes	0	0	0	0	0	0	0

Appendix I: Economic Analysis

Orlando Bike Plan – Economic Analysis Summary *DRAFT*

Introduction

Improvements to the Orlando bicycle facilities associated with the Bike Plan can be expected to lead to a number of various economic benefits and impacts. The purpose of this section is to summarize the quantification of the economic benefits that are likely to be generated thanks to the Plan-related investment in bicycle facilities in Orlando by year 2030. This summary describes the methodology used, and the findings obtained.

Benefits - Methodology

The applied methodology was based on certain basic economic analysis principles, and was aided by a literature review of other applicable bicycling economic analyses, along with the pertinent input data.

A sound benefits analysis relies on a fundamental principal of comparison of the projected benefits between the improved (Build) scenario (with the Bike Plan in place) versus the baseline (No-Build, without the Plan) scenario in the future. As a result, a critical step in this analysis process is defining the future year conditions for a base case (No-Build) forecast as well as the Plan alternative.

The benefits generally depend on the number of bicycle facility users, their intensity/frequency of use for a particular trip purpose, and some relevant parameter used for monetization.

The starting point for the number of users estimation were the trail usage counts on a subset of bike/ped trails in the City of Orlando in 2019, well as the numbers of riders and trips taken on rental bicycles in the City over the 2018/2019 timeframe. These counts were annualized and converted into bicycle users. The conversion was aided by survey data related to trip mode, and usage frequency, conducted in May of 2019 on the Orlando Urban Trail (O.U.T.). Other user characteristics such as average trip duration and distance, as well as primary trip purpose were also obtained from the O.U.T. field survey and the Plan-related online survey. These current user characteristics were assumed to hold through year 2030. Future (2030) base case (No-Build) volumes were expanded based on the projected growth in the City's total population[1]. The volumes of 2030 users under the Plan (Build) scenario were then derived based on the incremental expansion of the bicycle facilities that the Plan is projected to yield by that year.

For the trail part of the City's bicycle network, the O.U.T., thanks to its relatively highest degree of data availability, served as a proxy for the typical per mile benefits accruing to the trail users of the City network. The O.U.T. average benefits were then expanded, based on relative mileage, to the rest of the trail network in the City. For the non-trail facilities, i.e., bike lanes and signed routes/bike boulevards, in the network, the bicycle rental volumes were applied.

[1] Source: City of Orlando, Economic Development Department, June 10, 2019

The benefits quantified in this analysis include: health, recreation, and reduced auto use. The following subsection summarize the methodologies pertaining to each of these categories.

Health Benefits
Treating cycling as a form of exercise can lead to health benefits that accrue to bicyclists regularly using outdoor facilities. The number of bicyclists in the City using the bicycle facilities for physical exercise can be converted into monetary equivalents. The numbers of incremental bicycle network users in 2030 was derived as summarized above. These volumes were combined with the parameter capturing annual per capita health cost savings from physical activity[2].

Recreation Benefits
Another benefit of trail usage is recreation. This benefit can also be monetized by applying a dollar value to the time spent on recreational activities while cycling. This value is a function of the incremental annual number of recreational users on the network, the daily amount of time regular network users engage in recreational activities, and the parameter capturing typical per user daily value of recreational activities[3].

Reduced Auto Use Benefits
Another potential benefit of bicycling pertains to diversion from the auto mode. Such benefit to society is generated by the number of commuters that replace auto travel by switching to a non-motorized bicycling on the City's network. The benefits include lower air pollution, reduced congestion to remaining drivers, and user cost savings. The reduced auto use benefit is derived by multiplying the number of (incremental) commuters, by the average round trip length, annualization factors, and the total unitary (per mile) saving parameter[4].

Results Summary

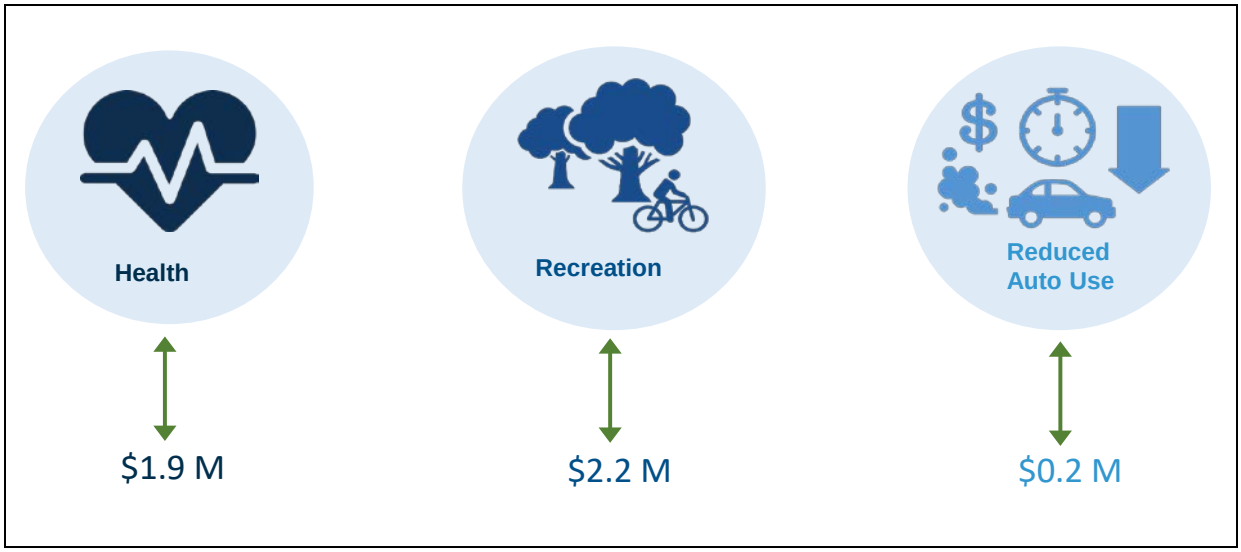
Figure 1 summarizes the benefit findings by category. The capture the monetized annual benefits of additional cycling related to the Bike Plan, based on the related network expansion in place. These projections are for year 2030, and are expressed in 2018 constant dollar terms. Overall, the incremental benefits pertaining to the Bike Plan are projected to amount to $1.9 million in additional health benefits, $2.2 million recreational benefits, and $0.2 million in reduced auto benefits. The magnitude of these benefits will change with the volumes of cycling and network size in other future years.

It should also be noted that, although not quantified here, other potential benefits and impacts may also occur, and may include: safety savings, ecological savings, property value changes,

[2] Based on the original NCHRP 552 Report health benefit value inflated from 2006$ to 2018$ using the GDP Price Deflator as per the U.S. DOT 2018 Discretionary Grant Programs Guidance, and BEA, 2019. All dollar values are expressed in 2018 constant dollars, unless stated otherwise.
[3] Based on the original NCHRP 552 Report recreation benefit value, inflated from 2006$ to 2018$ using the GDP Price Deflator as per the U.S. DOT 2018 Discretionary Grant Programs Guidance, and BEA, 2019.
[4] Based on the original NCHRP 552 Report health benefit value, inflated from 2006$ to 2018$ using the GDP Price Deflator as per the U.S. DOT 2018 Discretionary Grant Programs Guidance, and BEA, 2019.
[4] Based on the original NCHRP 552 Report reduced auto use savings per mile for urban area, inflated from 2006$ to 2018$ using the GDP Price Deflator as per the U.S. DOT 2018 Discretionary Grant Programs Guidance, and BEA, 2019.

as well as economic impacts (in real Gross Regional Product, employment, income, etc. terms) related to changes in user expenditures, and expansion-related construction and operating and maintenance (O&M) expenditures.

Figure 1: Benefits Summary (in year 2030, in 2018$)*



* Projected monetized annual benefits of additional cycling related to the Bike Plan (expanded network) in year 2030. The benefits magnitude will change with the volumes of cycling and network size in other future years.

Conclusion

The bicycle network improvements in the City of Orlando associated with the Bike Plan are expected to yield different benefits and impacts. The incremental societal benefits, related to health, recreation and reduced auto use, quantified in this analysis are projected to about $4.4 million in year 2030. A number of other benefits and impacts can also be expected to arise as a result of the investment in the City's bicycle network.

Appendix J: Bicycle Parking Requirements

Appendix A
Recommended Changes to 3D. - BICYCLE PARKING
Orlando Bicycle Plan 2019

Sec. 61.330. - Purpose of Bicycle Parking Requirements.

The bicycle parking requirements of this Part are intended to encourage the use of bicycles as a means of transportation in the City of Orlando, by ensuring that adequate bicycle parking facilities are provided at travel destinations. By encouraging the use of bicycles, the public health, safety and welfare will be furthered through improved air quality, reduced energy consumption and more efficient use of vehicular parking facilities.

(Ord. No. 2010-33, § 1, 8-30-2010, Doc. #1008301102)

Sec. 61.331. - When Bicycle Parking Requirements Apply.

The bicycle parking requirements of this Part shall apply to all new development, substantial improvements and substantial enlargements. Whenever the use at an existing building or structure is changed to another use, so that the amount of existing bicycle parking on-site is less than required by this Part, additional spaces shall be provided in the amount required by this Part, unless a Modification of Standards or Zoning Variance is approved.

(Ord. No. 2010-33, § 1, 8-30-2010, Doc. #1008301102)

Sec. 61.332. - General Requirements.

(a) Bicycle parking shall be provided in accordance with the standards of this Part, and shall be made available prior to the issuance of any Certificate of Occupancy/Completion for the use being served. Bicycle parking ~~may~~ shall consist of short-term bicycle parking and~~,~~ long-term bicycle parking as required. ~~, or any combination thereof.~~

(b) Short-term bicycle parking is generally intended to be used for less than two hours. Typical uses include visitors and customers of retail, restaurants, or medical offices. Short-term bicycle parking may include outdoor bicycle parking spaces and bicycle racks not protected from the weather. Short-term bicycle parking should be easily located and accessible to first-time visitors. ~~Parking facilities that comply with the standards for long-term bicycle parking may also be used to meet the short-term bicycle parking requirements.~~

(c) Long-term bicycle ~~parking~~parking is generally intended for use for four or more hours. Typical users include residents and employees. Long-term ~~may~~ bicycle parking must be in a format intended to provide security for longer term usage such as ~~in the form of either~~ bicycle lockers, restricted access cages or rooms, or continuously monitored indoor spaces. ~~consist of bicycle lockers, bicycle racks in covered loading dock areas or parking garages, and bicycle parking spaces that are indoors or otherwise protected from the weather.~~ Areas provided inside of multi-story office buildings for employees and visitors ~~may~~ counted as long-term bicycle parking must be accompanied by ~~with~~ an approved bicycle plan.

(d) Covered bicycle parking is encouraged wherever the design of the building or use being served by the bicycle parking facility includes a covered area that could accommodate such facilities either as proposed or through economical redesign.

(e) **This language (e) should be move to 31.334 "Location".** Bicycle parking located within a parking garage must be located within 50 feet of a pedestrian access point which includes an elevator~~, stairwell,~~ or first floor sidewalk connection. If the bicycle parking is located within an enclosed room within the parking structure, the distance requirement to an elevator~~, stairwell,~~ or pedestrian entrance is no more than 200 feet.

(Ord. No. 2010-33, § 1, 8-30-2010, Doc. #1008301102; Ord. No. 2019-10 , § 4, 3-25-2019, Doc. #1903251201)

Sec. 61.333. - Number of Spaces Required.

The minimum number of bicycle parking spaces required is shown in Figure 28. When the calculation of the number of required bicycle parking spaces results in a fractional number of spaces, any fraction up to and including 0.5 shall be disregarded and any fraction over 0.5 shall require one bicycle parking space. For any use not listed in Figure 28, bicycle parking spaces may be substituted for vehicle parking spaces at a rate of 8 bicycle parking spaces per vehicle parking space. The maximum substitution shall be 5% of the vehicle parking spaces required under this Part or 10 spaces, whichever is greater.

FIGURE 28. MINIMUM NUMBER OF BICYCLE PARKING SPACES REQUIRED

The following uses shall be required to provide bicycle parking spaces in the amounts listed:

Land Use	Long-Term	Short-Term
Retailing, Eating & Drinking	1:25,000 sf GFA	4 spaces plus 1:7,500 sf GFA
Heath, Fitness, or Sports Club	1:25,000 sf GFA	4 spaces plus1:10,000 sf GFA
Office [1]	1:125,000 sf GFA	4 spaces plus 1:215,000 sf GFA
Hotels/Motels	1:380 Rooms	4 space plus 1:25,000 sf of ballroom/function area ~~1:30 Rooms~~
Warehouse, Manufacturing & Processing	1:30,000 sf GFA	4 spaces plus 1:50,000 sf GFA
Self-Storage Facilities	1 space	4 spaces
Schools - High	~~3~~1:1~~10~~ classroom~~s~~	~~3:1 classroom~~8 spaces plus 1:10,000 sf Assembly Space
Schools - Elementary & Middle	~~13~~:1~~0~~ classroom~~s~~	8 spaces plus 1:10,000 sf Assembly Space~~3:1 classroom~~
Schools -College, University, Adult	1:5 classrooms	1:5 classrooms
Hospitals	1:50,000 sf GFA	8 spaces plus 1:50,000 sf GFA
Medical Office, Laboratory, or Clinic (Including Veterinarian)	1 per 5 employees	1 per 5 employees
Libraries, Museums, Theaters, Bowling Alleys, Skating Rinks, Community Center	1:25,000 sf GFA	8 spaces plus 1:5,000 sf GFA [2]
Multi-family Dwellings (3 Stories or Less)	1:5~~10~~ units	1:10~~5~~ units
Multi-family Dwellings (4 Stories or More)	1:~~10~~ 5 units	1:10 units
~~Religious Institution~~Assembly Use	1:25,000 sf GFA ~~NONE~~	4 spaces plus 1:10,000 sf GFA [2]

Notes:

1. A reduction in the minimum number of required bicycle parking spaces may be approved for any office use that institutes and maintains a bicycle parking plan, approved by the City. Such a reduction shall not exceed 40% of the required number of spaces, and may be terminated immediately upon failure of the owner, operator, tenant, or others responsible for such programs to maintain such programs in an ongoing and acceptable manner.

   sf = square feet GFA = gross floor area

2. Visitors spaces for assembly and entertainment uses typically host visitors for between 2 and 4 hours constituting an intermediate between short-term and long-term parking. For these uses design variations may be approved by the City which increase security, improve weather protection, and provide reasonable wayfinding.

(Ord. No. 2010-33, § 1, 8-30-2010, Doc. #1008301102; Ord. No. 2019-10 , § 4, 3-25-2019, Doc. #1903251201)

Sec. 61.334. - Location.

(a) Short-term spaces shall be located within 50 feet of the main entrance to the building as measured along the most direct pedestrian access route. For a building with more than one entrance, the bicycle parking must be distributed along all facades with a main entrance, and located within 50 feet of at least one main entrance, as measured along the most direct pedestrian access route. When more than 6 spaces are required per entrance, additional parking may be provided at a secondary location, such as a parking garage, not more than 200 feet from the principal entrance with directional signage indicating its location.

(b) Long-term bicycle parking must be located on the same building site as the use being served. All long--term bicycle parking spaces must be located within 200 feet of a main, operational~~the principal~~ entrance to the building.

(c) Bicycle parking facilities may be located in the rear 50% of any required front yard setback, but shall not be located in any vehicle parking space required under this Part, except where a vehicle parking space is specifically converted to bicycle parking spaces under the provisions of Section 61.333.

(Ord. No. 2010-33, § 1, 8-30-2010, Doc. #1008301102; Ord. No. 2019-10 , § 4, 3-25-2019, Doc. #1903251201)

Appendix K: Performance Measures

Performance Measures

Orlando Bicycle Plan 2019

December 5, 2019

Proposed Performance Measure Categories:

The following performance measure categories are suggested based on reviewing Bicycle Plans in recommended cities. Suggested baselines are based on available or accessible data. Performance measures are indicators and will not track all recommendations of the plan.

Category	Performance Measures	Baseline	Desired	2030 Target
Ridership	Bike to Work	0.6%[1]	Increase	1.5%
	Average Monthly Trail Users	232K	Increase	500K
Safety	Bicycle Danger Index	39[2]	Decrease	30% reduction
	Number of Fatal Crashes	Vision Zero[3]	Decrease	Zero Fatal Crashes
Connectivity	Miles of Bikeways	361 miles[4]	Increase	407 miles
	Miles of Separated/Off-street Bikeways	42 miles[5]	Increase	64 miles
	Citywide Average Bike Score	55	Increase	70
Equity[6]	Equity Ratio –Bikeways per Square Mile	0.67	Increase	0.80
	Equity Ratio – Separated / Off-street per Square Mile	0.50	Increase	0.80
Parking Availability	Public Bike Parking Locations	Baseline needed[7]	Increase	TBD
	Bike Theft Rate (public location)	Baseline needed[8]	Decrease	TBD
Programs	Bike Events Per Year (City Sponsored or Partner)	2	Increase	10
	City Employee Participation[9]	Baseline needed	Increase	15%

[1] Total Mode Share for all trip types would be preferable to Bike to Work mode share for this measure and to normalize other performance measures. However, such data is not consistently available.
[2] Methodology based on Dangerous by Design 2019; Average based on 199 Citywide Fatal and Severe Injury Crashes 2015-2017 (Orlando Vision Zero); Orlando 2017 Population 280,257.
[3] Recommend using a 3-year moving average.
[4] Green Works Orlando Community Action Plan: T.4: Miles of On-Street Bike Lanes and T.5 Miles of Street bike trails
[5] Green Works Orlando Community Action Plan: + T.5 Miles of Street bike trails
[6] Ratios calculated as % of Citywide Bikeways / % of Population for Areas of Equity Concern 4-7.
[7] This will be available if the City produces a public bike parking map.
[8] May be available from OPD. Recommended standardized report in Bicycle Parking section. Recommend excluding thefts at single-family residences. Should be calculated as a rate divided by Bike Mode Share.
[9]Percent of City employees who have participated in a bike training program or are currently participating in a bike incentive program.

Best Practice Example:

The following performance measures are used in the Seattle Bicycle Plan.

Table 7-7: 2013 Bicycle Master Plan Performance Measure Targets

Goal	Performance Measure	Baseline Measurement	Performance Target
Ridership	Number of bicyclists counted at locations throughout Seattle	2014 citywide quarterly counts and daily counts at counter locations	Quadruple ridership between 2014 and 2030
Safety	Bicycle collision rate	2014 rate (based on updated 2014 counts)	Reduce bicycle collision rate by half (50%) between 2013 and 2030
	Number of serious injuries and fatalities	2013 number	Zero fatalities by 2030
Connectivity	Percentage of bicycle facility network completed	2013 percentage (calculate number based on final network map)	100 percent of bicycle system constructed by 2035
Equity	Areas lacking bicycle facilities	2012 Existing Conditions report	Zero areas of city lacking bicycle facilities by 2030
Livability	Percentage of households within ¼ mile of an all ages and abilities bicycle facility	2013 percentage (calculate based on latest built network)	100% of households in Seattle within ¼ mile of an all ages and abilities bicycle facility by 2035

Table 7-8: 2013 Bicycle Master Plan Performance Measure Trends

Goal	Performance Measure	Baseline Measurement	Desired Trend
Ridership	Commute mode share	2012 Census data (American Community Survey)	Increase
Safety	Percentage of Seattle residents who identify safety as a major impediment to bicycling	2013 SDOT phone survey percentage	Decrease
Connectivity	Key Travel Sheds Completed	2013 percentage of key travel sheds completed	Increase
Equity	Percentage of females, older adults, and people of color who ride regularly (a few times a month or more)	2013 SDOT phone survey percentage	Increase
Livability	Number of bicycle racks and on-street bicycle corrals	2013 number	Increase
	Self-reported physical activity	2006 King County Public Health report	Increase

Methodology of Bike Danger Index:

The Bike Danger Index was calculated based on the methodology of the widely circulated Dangerous by Design report on pedestrian safety by Smart Growth America. The Dangerous by Design methodology takes a well-used measure of safety, incidents per 100,000 residents, and normalizes it using mode share to account for the variation in the frequency of walking in different metropolitan areas. The Bike Danger Index similarly uses the Bike to Work Mode Share to normalize the data. It would be preferable to use an all-trip mode share that includes non-work trips; however, this data is not widely available or regularly updated. The Bike Danger Index recommended here follows the same methodology with two additional changes. The Bike Danger Index includes both fatal crash and serious injury crashes instead of only fatal crashes. Including serious injury crashes increases the sample size, decreasing the influence

of random variation in a small dataset, and is consistent with the City's data collection methods for the Vision Zero project. The Dangerous by Design report averages 10 years of data to produce the index. This decreases the impact of random variation from year to year but also makes it difficult to determine changes over shorter time frames. The Bike Danger Index implements an intermediate approach by using a 3-year moving average which spans multiple years to decrease the influence of random variation in a small dataset, but with a shorter timeframe than the Dangerous by Design's 10-year moving average.

Methodology of Equity Ratios:

				BIKEWAY EQUITY RATIOS	
NEIGHBORHOOD EQUITY SCORE	**CENSUS BLOCK GROUPS** (TOTAL NUMBER)	**AREA** (PERCENTAGE OF SQ. MILES)	**POPULATION** (PERCENTAGE OF CITYWIDE TOTAL)	**% Bikeways / % Population**	**% Off-Street Bikeways / % Population**
0	**9**	**3%**	**6%**	1.00	2.00
1	**32**	**40%**	**20%**	1.60	2.05
2	**32**	**11%**	**12%**	0.50	0.25
3	**27**	**25%**	**20%**	1.35	1.20
Other Areas Subtotal		**78%**	**58%**	**1.22**	**1.38**
4	19	6%	12%	0.58	0.67
5	**26**	**9%**	**18%**	0.78	0.61
6	**16**	**6%**	**11%**	0.55	0.18
7	**2**	**0.4%**	**1%**	1.00	0.00
Areas of Concern Subtotal		**22%**	**42%**	**0.67**	**0.50**

Bikeway Equity Ratios were calculated by analyzing the Composite Indicators of Inequity described in the Existing Conditions and comparing the ratios of share of bikeways to share of population for areas of concern. Areas with a high Neighborhood Equity Score are areas of concern relative to ensuring equity outcomes. A Bikeway Equity Score of 1.0 indicates proportional provision of bikeways in these neighborhoods relative to the rest of the City. A score of higher than 1.0 may also be desirable in some cases as Areas of Concern include indicators of a higher than average demand for bikeways such as a high percentage of zero vehicle households. On a bikeway per population basis, Areas of Concern are less well-served than other areas of the City. As the plan recommends increased investment in off-street and separated bikeways, it is recommended that the performance measures track both total and off-street/separated bikeways to ensure that new investments in off-street/separated bikeways are distributed equitably.

There are many reasons that the number of bikeways may vary from neighborhood to neighborhood including location in the overall bikeway network, latent demand, distance from destinations, natural barriers, and street network configuration. Specific planning must be applied at the neighborhood level

to ensure appropriate bicycle infrastructure provision. The averages may also obscure specific neighborhoods that are under-served even if the overall ratio indicates proportional provision of bikeways. Specific underserved census block groups are identified in the Existing Conditions report.

As population densities increase there will be a practical upper limit on the benefits of increases in bikeway miles in any given neighborhood, therefore for long-term tracking it is recommended to monitor bikeways per square mile as a secondary indicator; this may require some data cleaning. This approach would suggest a more favorable equity score today than the population method. However, currently the land area method is confounded by large variations in the underlying data such as the presence of the Orlando International Airport which constitutes nearly half the land area in census block groups with a Neighborhood Equity Score of 2. Notwithstanding top-level indicators, it is important for the City to continue deeper analysis of equity issues in the bike network including deficiencies in specific geographic areas and apply solutions appropriate to context of a given area.

Bike Danger Score: City of Orlando 2017

Serious Injury / Fatal Bike Crashes per year (2015-2017)	City Pop 2017	Incidence / Pop	Index Multiplier	Incidence per 100,000 population	Bike to Work Mode Share	Bike Danger Index
66	280,257	0.000235498	100,000	23.5	0.6	39.2

Methodology based on Dangerous by Design 2019 Pedestrian Danger Index

Comparables

New York City 2017 -	Pop 2017	Incidence / Pop	Index Multiplier	per 100k	Mode Share	
4,397	8,623,000	0.00050992	100,000	51.0	1.2	42.5
Portland 2016-2017 Serious Injuries and Fatalities						
18.5	647,805	0.00002856	100,000	2.9	6.54	0.4
Boston 2015-2017						
439	685,084	0.00064080	100,000	64.1	2.11	30.4