LPGA Sub-Area Study

Presented by
Jon Cheney, PE
R2C TPO Board: February 26, 2020
Presentation Outline

- Purpose
- Existing Conditions
- Future Scenarios
- Results & Discussion Points
Daytona Beach Latitude Margaritaville grows at red-hot pace

DAYTONA BEACH — Latitude Margaritaville helped propel housing starts in Volusia County last year to the highest level since 2005. The Jimmy Buffett-themed "55-and-better" community in Daytona Beach, which welcomed its first residents last year, has more than doubled in size in the last year. The subdivision’s developer plans to build 3,000 houses in the next decade.

Mar. 13, 2019

Although there are still some technical issues pending, the Buc-ee’s project in the World Golf Village area near St. Augustine is on the path to eventual approval. And in Daytona Beach, construction on the store planned for the... Feb. 25, 2019

Residents along LPGA get update on road project

The question nags at Robert Botchick every time he drives out of his Margaritaville subdivision and is forced to wait to turn left onto LPGA Boulevard. Why are those darn lights still flashing? A traffic signal has been out for months, and he wants it fixed now.

Feb. 26, 2019

LETTERS: “That bridge on LGPA Boulevard has to get in line.”

Many roads need fixing before LPGA Not so fast my friends in Latitude Margaritaville; that bridge on LGPA Boulevard has to get in line. The people who have lived here for a longer time have other plans before money is spent...

Mar. 4, 2019

Source: All headlines and news stories are from the Daytona Beach News-Journal
Development Trips in the Surrounding Study Area

Holly Hill
- Fountainhead

Ormond Beach
- Granada Pointe
- Marshside Village
- Pineland PRD
- Ormond Central
- Ormond Crossings

Daytona Beach
- Sam's Club
- NADG Phase 1
- Tomoka Pointe Apartments
- Minto Parcel B
- Cypress Trail
- Clyde Morris Industrial
- Mosaic
- Concierge DD
- The Preserve
- Buc-ee’s
- Integrated LPGA
- Honda of Daytona
- Subaru of Daytona
- Shade Tree Apartments
- Mason Industrial
- Costa HQ
- Great American Auto

Vested trips—Traffic from approved developments that are not accounted on a roadway facility.

Information provided by partners: Daytona Beach, Holly Hill, Ormond Beach
Study Area

Study Boundary (Approximately 35 square miles)
- SR 40/Granada Blvd (to the north)
- US 92/ISB (to the south)
- SR 5A/Nova Road (to the east)
- LPGA Blvd & Potential future Tournament Dr Ext. (to the west)

Study Roads (244 lanes-miles of roads)
- I-95
- US 92
- Nova Road (SR 5A)
- Granada Boulevard (SR 40)
- LPGA Boulevard
- Clyde Morris Boulevard
- Derbyshire Road
- Dunn Avenue
- Hand Avenue
- Mason Avenue
- Tomoka Farms Road
- Tymber Creek Road
- Williamson Boulevard
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Existing Traffic 2017

CAPACITY CONCERNS–EXISTING TRAFFIC

0.80 < Volume-to-Capacity (V/C) < 0.999

Volume-to-Capacity (V/C) > 1.00
Comparison

Base Year
2017 - 2040

CAPACITY CONCERNS–EXISTING (2017)
PLUS VESTED DEVELOPMENT TRIPS

Compare

CAPACITY CONCERNS–YEAR 2040

2 Lane Roadway
4 Lane Roadway
6 Lane Roadway
8 Lane Roadway
Study Area

0.80<Volume-to-Capacity (V/C)<0.999

Volume-to-Capacity (V/C)>1.00
Presentation Outline

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SCENARIO 1

“Low-Hanging Fruit”

Includes Roadway Projects:

- Tymber Creek Road
- Hand Ave widening
- LPGA Blvd widening
- Dunn Avenue widening

NUMBER OF LANES

CAPACITY CONCERNS

COST ESTIMATE: $83,069,358
SCENARIO 2: “Southern Relief”

Includes: Scenario #1 Projects + Dunn Avenue Extension

NUMBER OF Lanes

- 2 Lane Roadway
- 4 Lane Roadway
- 6 Lane Roadway
- 8 Lane Roadway
- Study Area

CAPACITY CONCERNS

- $105,069,358

COST ESTIMATE:

0.80 < Volume-to-Capacity (V/C) < 0.999

Volume-to-Capacity (V/C) > 1.00
SCENARIO 3: “Northern Relief”

Includes: Scenario #1 Projects + Hand Avenue Extension

<table>
<thead>
<tr>
<th>NUMBER OF Lanes</th>
<th>Capacity Concerns</th>
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<tr>
<td>2 Lane Roadway</td>
<td>0.80 &lt; Volume-to-Capacity (V/C) &lt; 0.999</td>
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<tr>
<td>4 Lane Roadway</td>
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<td>Study Area</td>
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COST ESTIMATE: $113,369,358
SCENARIO 4

“Pie-in-the-Sky”

Includes:

SCENARIO 1
SCENARIO 2
SCENARIO 3

PLUS:

Hand Ave Extension + Tournament Dr Extension

NUMBER OF LANES

COST ESTIMATE:
$153,769,358

CAPACITY CONCERNS

0.80 < Volume-to-Capacity (V/C) < 0.999
0.00

Volume-to-Capacity (V/C) > 1.00

0.00

Study Area

2 Lane Roadway
4 Lane Roadway
6 Lane Roadway
8 Lane Roadway

Champion Elementary School

0.64
0.64
0.99
0.99
1.00

0.80
0.80
0.80
0.80

0.89
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Presentation Outline

- Purpose
- Existing Conditions
- Future Scenarios
- Results & Discussion Points
Scenario Comparison - Overall Congestion Levels
Capacity vs Lane-Miles (Lower is better)

- County Most Likely to Proceed with Current Funding

- Near Capacity
- Over Capacity
- v/c > 1.5

- 2017 Existing Conditions
- 2017 Existing Plus Vested
- Base 2040
- Scenario 1 - Low-Hanging Fruit
- Scenario 2 - Southern Relief
- Scenario 3 - Northern Relief
- Scenario 4 - Pie-in-the-Sky
Scenario Comparison - Congestion Forecast

Percentage of Trips Experiencing Congestion
(Lower is better)

**EXISTING CONDITIONS**

- **0.89%**

**2017 Existing Conditions**

- **13.98%**

**2017 Existing Plus Vested**

- **11.26%**

**Base 2040 No Build**

- **4.70%**

**Scenario 1 “Low-Hanging Fruit”**

- **4.70%**

**Scenario 2 “Southern Relief”**

- **6.99%**

**Scenario 3 “Northern Relief”**

- **4.44%**

**Scenario 4 “Pie-in-the-Sky”**

- **4.88%**

**County Most Likely to Proceed with Current Funding**

- **0.89%**
## Improvement Costs

<table>
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<tr>
<th>Improvement</th>
<th>Construction Cost *</th>
<th>Number of Lanes</th>
<th>Limits</th>
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<td>Tymber Creek Rd</td>
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<td>Minto to SR 40</td>
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<td>LPGA Blvd Widening</td>
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<td>Tymber Creek Road to Clyde Morris Blvd</td>
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<td>$6,955,101</td>
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<td>Nova Rd to Clyde Morris Blvd</td>
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<td>Dunn Ave Widening</td>
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<td>Williamson Blvd to Clyde Morris Blvd</td>
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<td>Dunn Ave Extension</td>
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<td>Tomoka Farms Rd to LPGA Blvd</td>
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<td>Hand Ave Extension</td>
<td>$39,500,000</td>
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<td>Williamson Blvd to Tournament Drive</td>
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<td>LPGA Blvd to SR 40</td>
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<td><strong>TOTAL</strong></td>
<td><strong>$153,769,358</strong></td>
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* Costs provided by Volusia County Engineering
Scenario Comparison - Cost Estimates

County Most Likely to Proceed with Current Funding

**SCENARIO 1**

"Low Hanging Fruit"

$83,069,358

**SCENARIO 2**

"Southern Relief"

$105,069,358

**SCENARIO 3**

"Northern Relief"

$113,369,358

**SCENARIO 4**

"Pie-in-the-Sky"

$153,769,358
Smart Growth–Land Use/Transportation Life Cycle

LAND USE generates TRAVEL demands ROAD CAPACITY

[Diagram showing the relationships between land use, travel, and road capacity]
Smart Growth–Land Use/Transportation Life Cycle

LAND USE

Anticipate

generates

TRAVEL

WE ARE HERE

Forecast

ROAD CAPACITY

demands

Accommodate
Smart Growth – Development Design’s Impacts on Transportation

Conventional

Traditional
Street Networks Establish the Framework of a Community
ACCESS MANAGEMENT

- Helps accommodate improved traffic flow along roadways
- Reduces curb-cuts, improving walking and bicycling conditions
- Connected street network allows for internal site circulation by multiple modes
- Policies can allow/require cross access easement and shared driveways
Trying to cure traffic congestion with more capacity is like trying to cure obesity by loosening your belt.

— Glen Hiemstra, Futurist