Presentation Overview

- Scope of the study
- Public involvement activities
- Data collection and analysis
- Vision for Corridor Transformation
- Recommended Improvements
- Moving Forward
Countwide Safety Initiatives

- Walk-Ride-Thrive!
- INVEST in Our Home for Life

✓ Community Outreach/Coordination
✓ Comprehensive Mobility Assessment
✓ Context Appropriate
Scope of the Study

Study Area

Totaling approx. 4.6 mi.
Purpose and Goal

- Identify opportunities for safety enhancements
- Improve and enhance pedestrian/bicycle safety within and along the corridors
Scope of the Study

- Previous Studies
- Existing Conditions/Data Collection
- Identify Safety Concerns
- Evaluate Potential Solutions
- Recommend Solutions
- Implementation Plan
Public Involvement Activities

Core Group
- UCF
- FDOT
- LYNX
- FHP
- MetroPlan Orlando
- Sheriff’s Office
- Bike/Walk Central Florida
- Orange County Departments
- Central Florida Research Park*

*Central Florida Research Park
Public Involvement Activities

Key Stakeholders

- Knights Circle
- Northview
- University Apartments
- Plaza on University
- The Edge Orlando
- Central Florida Research Park
Public Involvement Activities

4 Core Group Meetings/6 Stakeholder Interviews:

- October 2014, November 2014, February/August 2015, February 2016

General Comments:

- Greater interconnectivity (specifically pedestrian facilities within/proximate to campus; vehicular connectivity to/through campus in all directions)
- Reduction in vehicular/non-vehicular conflicts (campus design and bicyclist/pedestrian behavior and movements)
- Greater awareness/branding of pedestrian-scale environment (both approaching campus and at the gateway into campus)
Data Collection and Analysis

Evaluation of Land Uses – North Area

[Map of the North Area with major land uses labeled: Housing, Lodging, Office, Retail/Restaurant, Rec/Sports/Other. The Study Area is highlighted in blue.]
Data Collection and Analysis

Evaluation of Land Uses – Central Area

Major Land Uses
- Housing
- Lodging
- Office
- Retail / Restaurant
- Rec / Sports / Other

Study Area
Data Collection and Analysis

Evaluation of Land Uses – South Area
Evaluation of Crash Data

- Statewide Crash Comparison
- Signal Four Analytics – FHP
- Generalized & Detailed Crash Data
- Crashes 2006 to 2014
- Initial Review of Crash Data and Trends
Data Collection and Analysis

Historic Pedestrian & Bicycle Crashes

Pedestrian Fatalities by County for 2014
(Hover your mouse over the maps to reveal county names and statistics)

View Crash Location Map (Via Google Maps)

Pedestrian Fatalities

Pedestrian Fatalities per 100,000 Population

NHTSA
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

Fatalities

- 0
- 26-35
- 36-45
- 1-5
- 6-15
- 16-25
- 46-55
- 56+

Compare Individual County Rate to the Rates of all US Counties

- 0
- Lower Third [Under 1.56]
- Middle Third [1.56-3.16]
- Upper Third [3.16+]
Data Collection and Analysis

Historic Pedestrian & Bicycle Crashes

Assessment of Sidewalk/Bicycle-Lane Gaps with Safety and Developing Statewide Pedestrian Crash Rates

Table 3: Actual Crash Rates versus Statewide Averages for Roadway Pilot Study

<table>
<thead>
<tr>
<th>No</th>
<th>Roadway Name</th>
<th>Segment</th>
<th>Roadway Category</th>
<th>AADT (5-YR Avg)</th>
<th>Length (miles)</th>
<th>No of Ped Crashes (5-YR)</th>
<th>Exposure</th>
<th>Actual Ped Crash Rate per 100 MVM</th>
<th>Statewide Avg Rate per 100 MVM</th>
<th>Hazardous Segment</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>US 17/92 (Old)</td>
<td>Oak Ridge Rd to Holden Ave</td>
<td>6 Ln Div Principal Arterial-Other-Urban</td>
<td>58,590</td>
<td>1.30</td>
<td>24</td>
<td>160,130,750</td>
<td>6.74</td>
<td>4.24</td>
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<td>2</td>
<td>SR 434 (Alafaya Tr)</td>
<td>SR 50 to McCulloch Rd</td>
<td>6 Ln Div Principal Arterial-Other-Urban</td>
<td>59,400</td>
<td>3.12</td>
<td>22</td>
<td>338,223,600</td>
<td>6.50</td>
<td>1.51</td>
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<td>3</td>
<td>SR 511 (Goldenrod Road)</td>
<td>Lake Underhill to SR 50</td>
<td>4 Ln Div Minor Arterial-Urban</td>
<td>33,300</td>
<td>2.00</td>
<td>5</td>
<td>121,545,000</td>
<td>4.11</td>
<td>2.53</td>
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<td>4</td>
<td>SR 50 (Colonial Dr)</td>
<td>Dean Rd to Alafaya Tr</td>
<td>4 Ln Div Principal Arterial-Other-Urban</td>
<td>47,800</td>
<td>2.27</td>
<td>14</td>
<td>198,023,450</td>
<td>7.07</td>
<td>1.16</td>
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<td>5</td>
<td>SR 15 (Hoffner Ave)</td>
<td>Conway Rd to Goldenrod Rd</td>
<td>2 Ln Undiv Minor Arterial-Rural</td>
<td>21,060</td>
<td>2.61</td>
<td>4</td>
<td>100,314,045</td>
<td>3.99</td>
<td>6.86</td>
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<td>6</td>
<td>US 27</td>
<td>CR 474 to Lake Louise Rd</td>
<td>4 Ln Div Principal Arterial-Other-Rural</td>
<td>20,920</td>
<td>8.52</td>
<td>2</td>
<td>325,285,080</td>
<td>0.61</td>
<td>3.02</td>
<td>NO</td>
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<tr>
<td>7</td>
<td>US 192</td>
<td>Holoapw Rd to Deer Park Rd</td>
<td>4 Ln Div Principal Arterial-Other-Rural</td>
<td>5,800</td>
<td>11.38</td>
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<td>8</td>
<td>SR 415</td>
<td>Celery Ave to Reed Ellis Rd</td>
<td>2 Ln Undiv Minor Arterial-Rural</td>
<td>16,920</td>
<td>2.48</td>
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<td>76,579,920</td>
<td>2.61</td>
<td>6.86</td>
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<td>9</td>
<td>CR 419 (Chuluota Rd)</td>
<td>SR 50 to Lake Pickett Rd</td>
<td>2 Ln Div Minor Arterial-Urban</td>
<td>12,000</td>
<td>1.93</td>
<td>1</td>
<td>42,267,000</td>
<td>2.37</td>
<td>3.59</td>
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</table>

Notes:
* AADT data was obtained from the latest 2013 FDOT Traffic Information Online and based on the average of the 5-yr period (2009-2013)
* No of crashes were obtained from Signal 4 Analytics Database for the 5-yr period (June 2009-May 2014)
* 2 out of the 3 crashes on US 192 segment were fatalities
* 2 out of the 2 crashes on SR 415 segment were fatalities
Historic Pedestrian & Bicycle Crashes

2006 - 2014 Crash Data

<table>
<thead>
<tr>
<th>Category</th>
<th>Alafaya</th>
<th>McCulloch</th>
<th>University</th>
<th>All Segments</th>
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</thead>
<tbody>
<tr>
<td>All Crashes</td>
<td>191</td>
<td>13</td>
<td>55</td>
<td>259</td>
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<tr>
<td>Crashes w/ Injuries</td>
<td>156</td>
<td>9</td>
<td>42</td>
<td>207</td>
</tr>
<tr>
<td>Crashes w/ Fatalities</td>
<td>6</td>
<td>2</td>
<td>3</td>
<td>11</td>
</tr>
</tbody>
</table>

Crashes By Type

- Pedestrian: 41%
- Bicycle: 59%

Crashes By Roadway

- Alafaya TI: 74%
- McCulloch Rd: 5%
- University Bv: 21%
Data Collection and Analysis

Crashes Involving Pedestrians Or Bicyclists (Jan '06 - July '14)

- <25 crashes / mile
- 26 - 40 crashes / mile
- >40 crashes / mile

Site of fatal pedestrian crash
(no fatal bicyclist crashes during study period)

91 months / about 7½ Years
Data Collection and Analysis

Existing UCF Shuttle & LYNX Transit Services

UCF Shuttle Service Information
UCF Shuttle Service runs from 6:30 am to 10 pm (8 pm on Fri)
Starts at 5:30 am on exam week
Headway: 15 to 90 minutes
Observation of Pedestrian/Bicycle Volume

- 24 Zones covering 4.6 miles
  - 11 intersections
  - 26 mid-block points
  - 53 Minor roads / driveways

- Duration
  - Friday & Saturday evening (8 p.m. - 2 a.m.)
  - Game Day (Pre and Post Game)
  - Monday morning, mid-day, afternoon rush hour
Data Collection and Analysis

Crashes Involving Pedestrians Or Bicyclists (Jan '06 - July '14)

- <25 crashes / mile
- 26 - 40 crashes / mile
- >40 crashes / mile

Site of fatal pedestrian crash
(no fatal bicyclist crashes during study period)

91 months / about 7½ Years

Areas w/ High Observed Pedestrian Volume
Data Collection and Analysis

Posted Vs. Actual Speeds

<table>
<thead>
<tr>
<th>Location</th>
<th>All Observations</th>
<th>Fri/Sat Night</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alafaya TI</td>
<td>53.0</td>
<td>44.9 / 42.8</td>
</tr>
<tr>
<td>University Bv</td>
<td>49.3</td>
<td>38.0 / 35.3</td>
</tr>
<tr>
<td>McCulloch Rd</td>
<td>53.1</td>
<td>49.1 / 46.1</td>
</tr>
</tbody>
</table>

On Average, Vehicles Traveled 4 to 9 MPH Faster Than Posted Speed

High Ped./Bike Volumes + High Vehicle Speeds = Dangerous Pedestrian Environment
Data Collection and Analysis

Pedestrian Safety Focus Areas

- This area experiences high volumes of pedestrians and bicycles, combined with higher occurrences of crashes.
- The land uses on both sides of the street encourage cross-street flow of pedestrians and bicycles.
- The area surrounds the primary UCF entryways.
Data Collection and Analysis

UCF Safety Focus Area
Vision for Corridor Transformation

Large landscaped median refuge

Comfortable, wide sidewalks

Attractive sidewalk materials

Mid-block crosswalks & textured pavement

Smaller turn radii and large landings

Wider/marked bike lanes
Vision for Corridor Transformation

Pedestrian Channelization Options

Pedestrian Fencing Around Daytona Speedway

Colored/Textured Crosswalks along Minor Roads near University of Florida
Tennessee St at Woodward Ave
Tallahassee, FL

Vision for Corridor Transformation
Branding the UCF Area

Facing East Towards UCF at Alafaya Trail and University Boulevard
Branding with Wayfinding Signs
Recommended Improvements

- Enhancements at 5 Major Intersections
- Addition of 2 Midblock Crosswalks with enhanced pedestrian features
- Enhancements at 13 Minor Roads/Driveways (colored concrete through driveways)
- Corridor-wide Pedestrian Safety Enhancements
Alafaya Tr. and University Blvd. Existing Conditions

- Wide turn radii encourages high speed turns
- Long crossing distances
- Narrow sidewalks
- Poor pedestrian visibility
MAJOR SIGNALIZED INTERSECTION DESIGN CONCEPTS

- Reduce turn radii to 25’
- Increase pedestrian landing areas as appropriate
- 12’ wide textured pavement crosswalks at all approaches
- Pedestrian-scale lighting
- Installation of trees/shrubbery and pedestrian fencing in medians and between sidewalk and curb near intersections
- Improve LYNX bus stop adjacent to crosswalks
Alafaya Tr. Midblock Crossing
Existing Conditions

- One of the highest volume midblock crossings is between Solon Dr. and Pasteur Dr.
- Two LYNX bus stops at this location, increasing the number of pedestrians crossing here
- Orange County has identified this as a problem location
MAJOR MID-BLOCK CROSSWALK DESIGN CONCEPTS

• Reduce turn radii to 25’
• 12’ Colored/Textured Crosswalks
• Shrubbery in median and between sidewalk and curb to slow traffic, guide pedestrians to crosswalk and improve pedestrian comfort
• Install 8’ sidewalks moved 8’ away from the curb, to allow greater separation from traffic
• Pedestrian-scale lighting
• Possible relocation of bus stops/shelters
TYPICAL MINOR ROAD/DRIVEWAY INTERSECTION DESIGN CONCEPTS

- Reduce turn radii to 25’
- Textured pavement crosswalks or continuous sidewalk over minor road/driveway
- Pedestrian-scale lighting at crossings
- Can be done in coordination with landscaping and sidewalk enhancement projects
Proposed Scenarios

Recommended Intersection Operational Improvements
EBR, NBR, SBR:

- Protected Overlap Right Turns OR
- Prot/Perm OV (FYA Right Turn)
- Prohibit U-Turns (NBL, EBL, WBL)
NBR, SBR:

• Protected Overlap Right Turns OR
• Prot/Perm OV (FYA Right Turn)
• Prohibit U-Turns (EBL, WBL)
NBR, WBR:

• Protected Overlap Right Turns OR
• Prot/Perm OV (FYA Right Turn)
• Prohibit U-Turns (WBL, SBL)

2012 PM PK HR TMC

Alafaya Trail & Central FL Blvd
All 4 Approaches:

• All 4 Approaches are Shared Thru Right Turn Movements

• Recommend FYA With Circular Green (FYA W/ CG) and Yield to Peds Sign

Circular Green for Thru with FYA for RT & Yield to Ped Sign
Pedestrian Optimization Module

“The Adaptive Signal Control Technology (ASCT) system shall include a pedestrian module feature to optimize service to pedestrian traffic in conjunction with vehicular traffic. The ASCT system is configured to incorporate pedestrian releases into its global coordination and local optimization schemes. By coordinating pedestrian movements with vehicle traffic, the impact of pedestrian calls on vehicular service levels is minimized.”
**University Boulevard/Alafaya Trail Interim Improvements**

**Phase I**
- Safety education (e.g. UCF Student Orientation, WRT! Safety Materials to Property Owners)
- Placement of Speed Detection Signs
- Signage/Way finding
- Supplement existing median landscaping w/ pedestrian fencing
- Installation of trees/bushes between sidewalk and edge of curb
- Installation of pedestrian lighting at UCF
- Installation of mid-block crossings – upgrade/modify signals

**Phase II**
- Widen sidewalks to 8’ along the roadway
- Installation of textured crosswalks at minor roadways and driveways
- Additional landscaping (outside UCF area)
- Intersection Improvements at Alafaya Trail and University Boulevard
- Pedestrian Lighting outside of UCF area
### Estimated Capital Construction Costs

<table>
<thead>
<tr>
<th>IMPROVEMENT</th>
<th>ESTIMATED COST (NO ROW)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INTERSECTION PROJECTS</strong></td>
<td></td>
</tr>
<tr>
<td>Alafaya Trail and University Boulevard</td>
<td>$878,000</td>
</tr>
<tr>
<td>University Boulevard and Quadrangle Boulevard</td>
<td>$558,000</td>
</tr>
<tr>
<td>Alafaya Trail and Gemini Boulevard</td>
<td>$558,000</td>
</tr>
<tr>
<td>Alafaya Trail and Central Florida Boulevard</td>
<td>$558,000</td>
</tr>
<tr>
<td>Alafaya Trail and Research Parkway</td>
<td>$558,000</td>
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<tr>
<td><strong>AT-GRADE MID-BLOCK CROSSING W/ PEDESTRIAN SIGNAL</strong></td>
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<tr>
<td>University Boulevard and Turbine Drive</td>
<td>$268,500</td>
</tr>
<tr>
<td>Alafaya Trail and Solon Drive</td>
<td>$268,500</td>
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<tr>
<td><strong>SIDEWALKS (WITH LANDSCAPING AND PEDESTRIAN LIGHTING)</strong></td>
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<tr>
<td>8-foot wide sidewalks along both sides of University Blvd.</td>
<td>$602,000 (Sidewalks: $308,000; Lighting: $224,000; Landscaping: $70,000)</td>
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<tr>
<td>8-foot wide sidewalk along west side of Alafaya Trail</td>
<td>$982,000 (Sidewalks: $487,200; Lighting: $336,000; Landscaping: $105,000)</td>
</tr>
<tr>
<td>12-foot wide sidewalk along east side of Alafaya Trail</td>
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</tr>
<tr>
<td>12-foot wide sidewalk along south side of McCulloch Road</td>
<td>$600,000</td>
</tr>
<tr>
<td><strong>PEDESTRIAN ENHANCEMENTS AT MINOR ROADS/DRIVEWAYS</strong></td>
<td></td>
</tr>
<tr>
<td>Textured/colored pavement/concrete crossing ($15K each)</td>
<td>$195,000</td>
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<tr>
<td>Reduced turn radii on all corners to 25 feet ($29.5K/corner)</td>
<td>$885,000</td>
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<tr>
<td><strong>FENCING AND SIGNAGE</strong></td>
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<tr>
<td>Pedestrian fencing</td>
<td>$4,383,430 (22,595 feet @ $194 per linear foot)</td>
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<td>Stylized signs</td>
<td>$50,000</td>
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# University Boulevard/Alafaya Trail Interim Improvements

## Anticipated Schedule

<table>
<thead>
<tr>
<th>PHASE</th>
<th>Mar</th>
<th>May</th>
<th>June</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
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<td>LPA Work Session</td>
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<td>Construction</td>
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<td></td>
<td>★</td>
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- ★ Month with approximate meeting date
- Yellow Quarter year

(Subject to change)
• COUNTY INVEST FUNDING
  • Design $358K
  • Rights of Way $500K
  • Construction $4 Million

• UCF/FDOT
  • Maintenance (MOA)
  • Campus Development Agreement
  • Capital Funding (long term improvements)
Thank you for coming and providing your feedback!