

**Pine Hills Road
Pedestrian/Bicycle Safety Study
Board of County Commissioners Public Hearing**

March 20, 2018



Meeting Agenda

- **Study Overview**
- **Existing Conditions**
- **Access Management**
- **Potential Gateway Features**
- **Proposed Street Typical Sections**
- **Potential Safety Countermeasures**



Study Overview

Walk-Ride-Thrive!

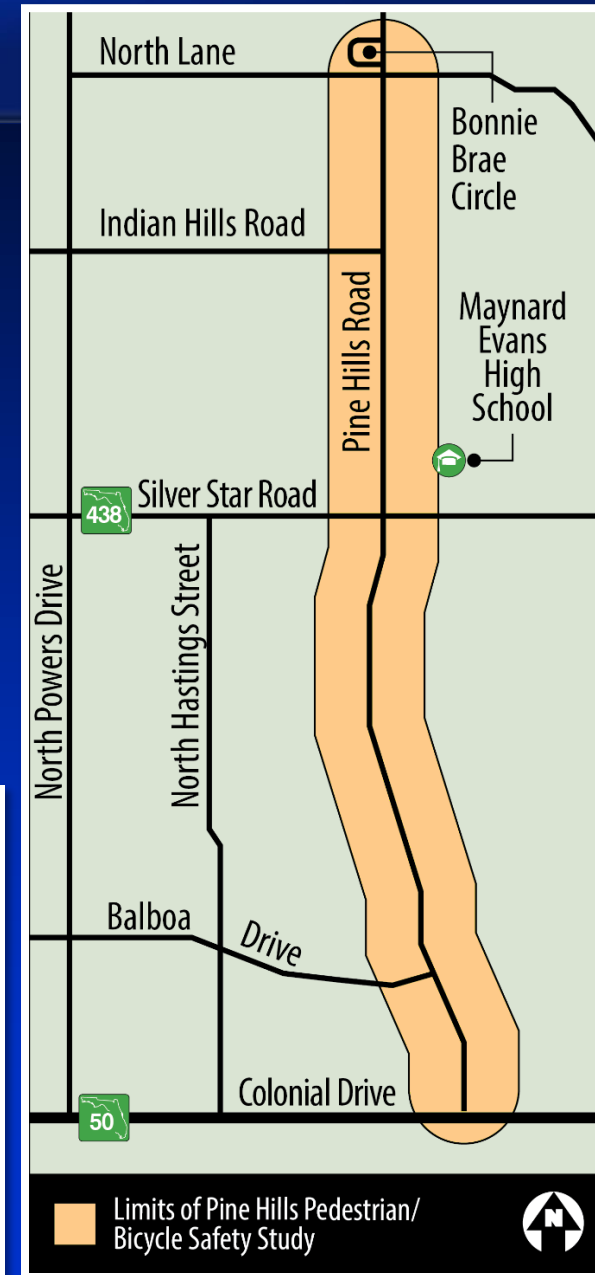
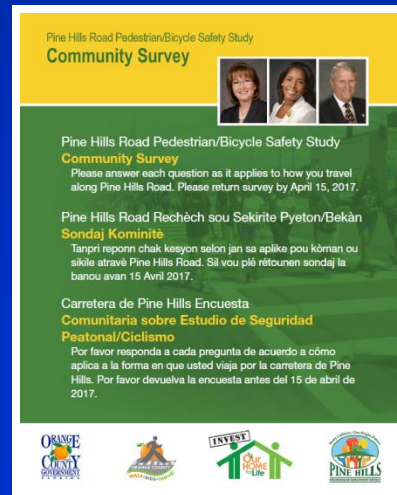
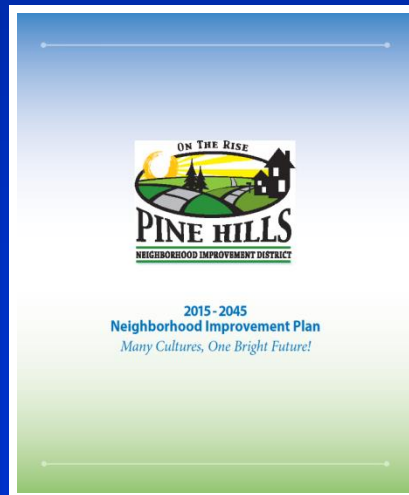
- Streets safer for pedestrians and bicyclists
- Improving roadways for pedestrian and bicycle safety
- Providing educational outreach
- Enforcing proper road use and behavior by all
- 3 Pedestrian/Bicycle Safety Studies





Study Overview

- **Kicked Off:** January 2017
- **Anticipated Completion:** March 2018
- **Corridor Length:** Approximately 3.6 miles
- **Goal:** Identify opportunities for implementing safety improvements for people walking, bicycling, driving or taking the bus





Study Overview

Key Stakeholders

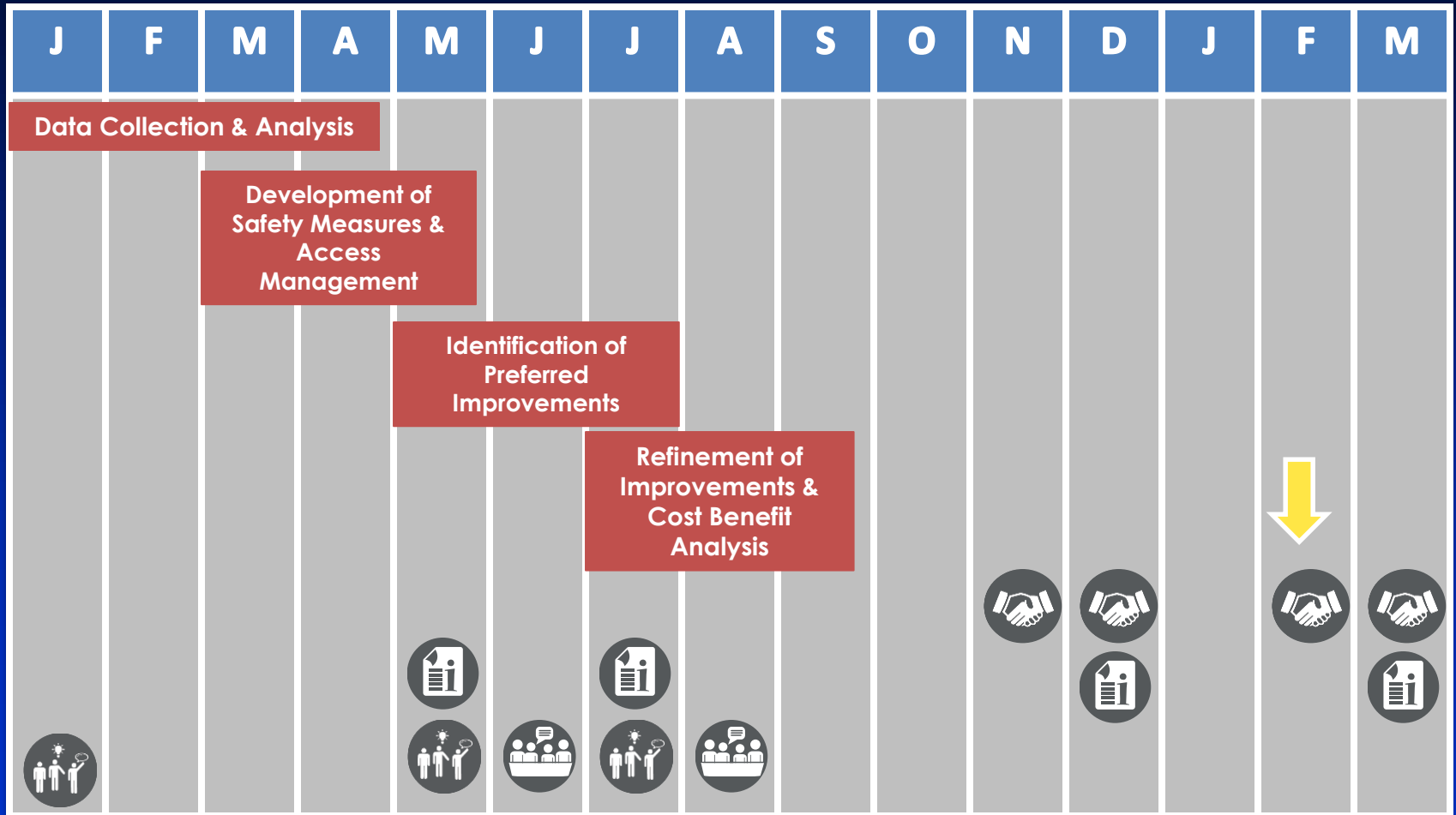


Community Members





Study Schedule



Agency Coordination Meeting



Community Meeting



Newsletter



LPA/BCC Meetings



Public Involvement



Study
Newsletter



Study
Website



Agency
Coordination
Meetings



Community
Meetings



LPA/BCC
Public
Meetings

All comments received throughout this Study will become part of public record and included in Final Study Report.



Community Survey

- **Biggest Challenges:**

- Large intersections
- Driver behavior

- **Crossing Behavior:**

- 51% don't cross at intersections or crosswalks

- **Most Preferred Improvements:**

- Increased lighting
- Law enforcement
- Wider sidewalks
- Pedestrian warning signs/flashing beacons at crosswalks
- Special signal phasing and pedestrian signs

Pine Hills Road Pedestrian/Bicycle Safety Study
Community Survey



Pine Hills Road Pedestrian/Bicycle Safety Study
Community Survey

Please answer each question as it applies to how you travel along Pine Hills Road. Please return survey by April 15, 2017.

Pine Hills Road Rechèch sou Sekirite Pyeton/Bekàn
Sondaj Kominite

Tanpri reponn chak kesyon selon jan sa aplike pou kòman ou sikile atravè Pine Hills Road. Sil vou plé rétownen sondaj la banou avan 15 Avril 2017.

Carretera de Pine Hills Encuesta
Comunitaria sobre Estudio de Seguridad Peatonal/Ciclismo

Por favor responda a cada pregunta de acuerdo a cómo aplica a la forma en que usted viaja por la carretera de Pine Hills. Por favor devuelva la encuesta antes del 15 de abril de 2017.



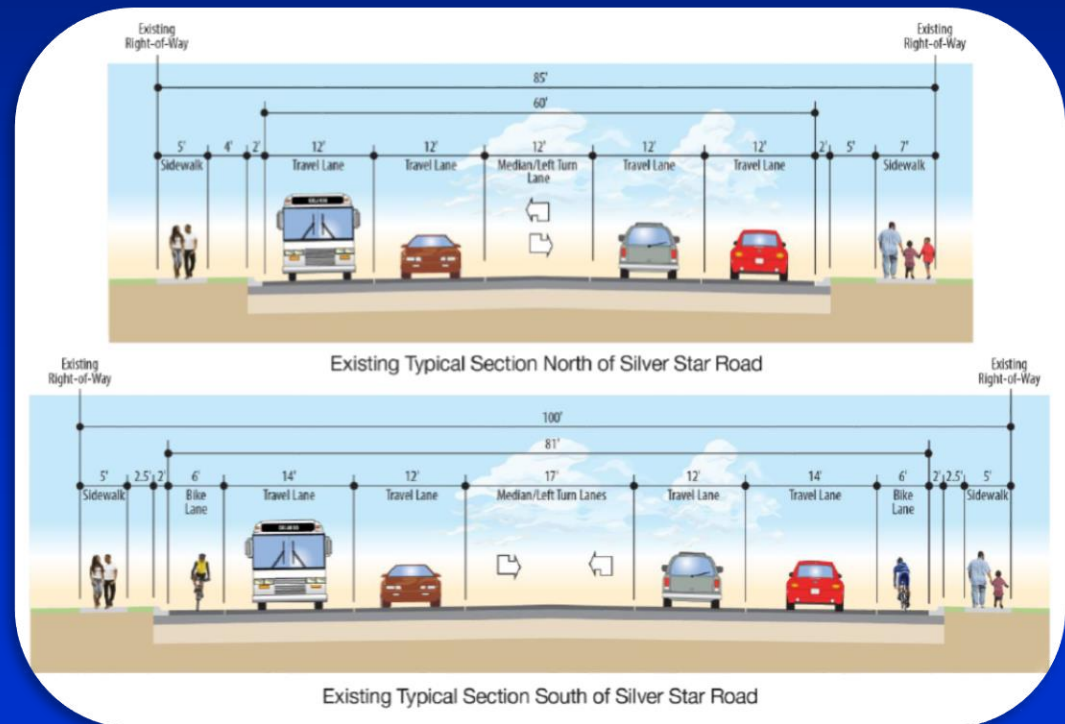


Existing Conditions: Roadway Features

- Urban Section with Curb and Gutter
- 5 Lane section with Left Turn Lane
- Varying right-of-way widths – 85' – 100'
- High number of driveways
- 40 mph Speed Limit

Pedestrian Crossings

- Across Pine Hills Road:
 - ✓ 7 midblock crossings
 - ✓ 8 signalized intersections
- Along Pine Hills Road:
 - ✓ 9 unsignalized intersections





Existing Conditions: Pedestrian/Bicycle Facilities

Pedestrian Facilities

- Upgrade sidewalks (both sides)
- Curb ramps needed
- Sidewalk repair needed



Bicycle Facilities

- 6' bicycle lanes along both sides south of Figwood Lane
- No bicycle lanes north of Figwood Lane



Majority of respondents indicated they prefer to bike off street on wider sidewalk/multipurpose path...



Existing Conditions: Traffic, Speed, and Transit

- Existing Traffic Volumes
 - 25,060 to 34,733 S of Silver Star Rd
 - 29,606 to 32,671 N of Silver Star Rd
- Truck volume: 8.2%



Posted Speed vs. Actual Speed

Location	85 th Percentile Speed	50 th Percentile Speed	10mph Pace Speed
South of Indian Hill Road	47	42	35 - 45
North of Balboa Dr Crosswalk	47	39	35 - 45
South of Balboa Dr Crosswalk	48	42	35 - 45

Much of traffic traveling at or near posted speed limit





Existing Conditions: Lighting

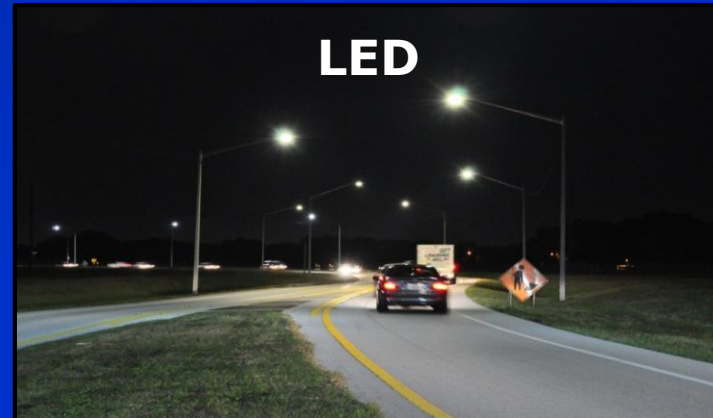
Luminosity Evaluation

- Readings Taken 11pm – 4am
- Signalized intersection crosswalks, mid-block crosswalks and transit stops



Findings

- Conventional High Pressure Sodium (HPS)
- Intersections and mid-block locations – Lighting upgrades needed
- Transit stops – Lighting upgrades needed

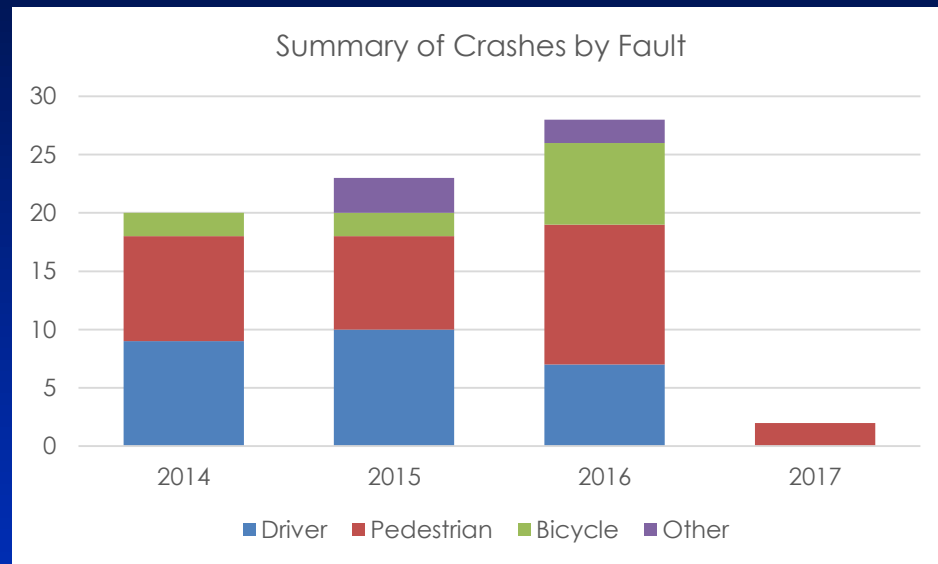




Existing Conditions: Crash History

Analysis Period: Jan. 2014 – Feb. 2017

Crash History (Total Crashes: 1,214)	
Crashes Involving Pedestrian/Bicycle	73 (6% of total crashes)
Crashes with Injuries	59 (81%)
Crashes with Fatalities	7 (10%)
Pedestrian Crashes	52 (71%)
Bicycle Crashes	21 (29%)



Conditions During Crashes	
Evening/Night	Approx. 45%
Highest Crash Locations	At Silver Star Rd. and At Colonial Dr.
Mostly Dry Conditions	

Highest Causes: Failure to Yield to Vehicle & Dart/Dash Across Road



Existing Conditions: Observed Pedestrian/Bicycle Volumes

Analysis Period: 3-Day Period

Crossing Type	Ped	Bike	Highest Frequency Locations
Mid-block (At & Near)	283	67	At Silver Star Rd, N of Fir Dr, Figwood Ln,
Signalized Intersections (Including School Hours)	1,745	212	Silver Star Rd & Belco Dr
Unsignalized Intersections	1,085	238	From Spring Hill Dr to Champagne Cir
Major Driveways	156	30	Faith Christian Center Church
Total Observed:	3,269	547	





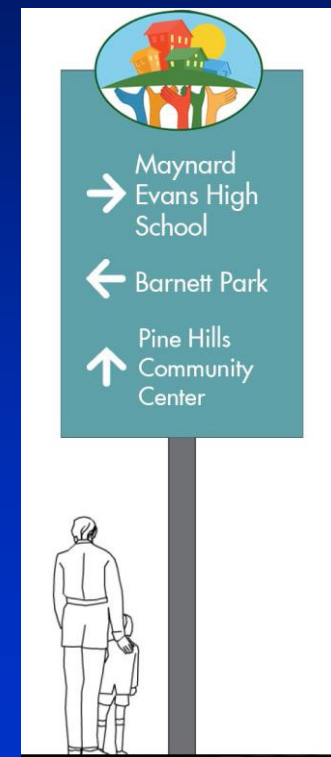
Potential Gateway Features

Gateway Features

- Wider Colored/Textured Crosswalks
- Larger Colored/Textured Pedestrian Landings
- Gateway and Enhanced Signage/Wayfinding Signage
- Towers and Low Walls with Pine Hills Branding
- Connection to Pine Hills Trail Phase II
- Landscaping
- New Traffic Signal Mast Arms

Intersection Modifications

- Reconstruct Curb Returns To Reduce Crossing Distances

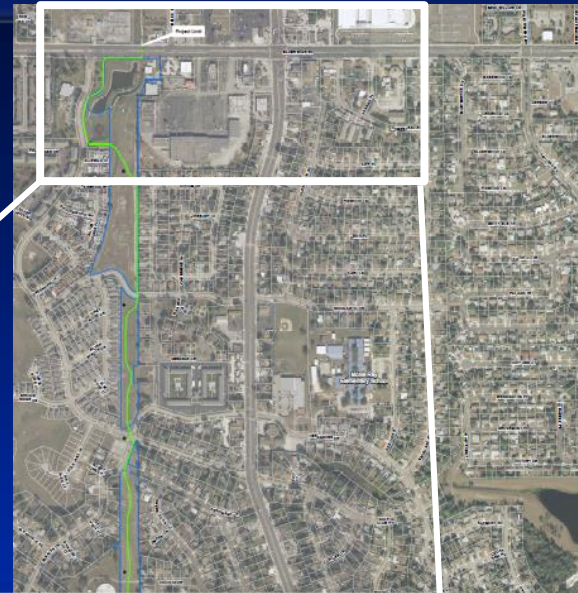
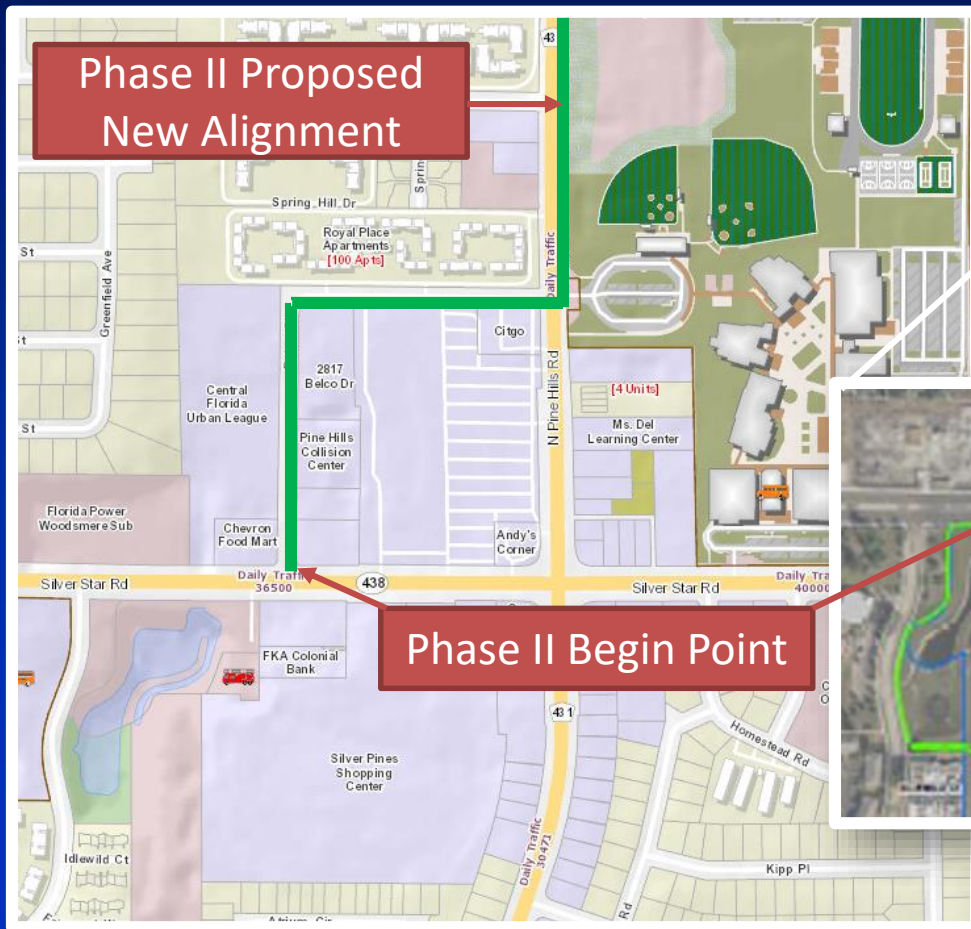


All Gateway Features and Intersection Modifications Subject to FDOT Approvals, Funding and Memorandum of Agreements for Maintenance Being in Place.



Connection to Pine Hills Trail

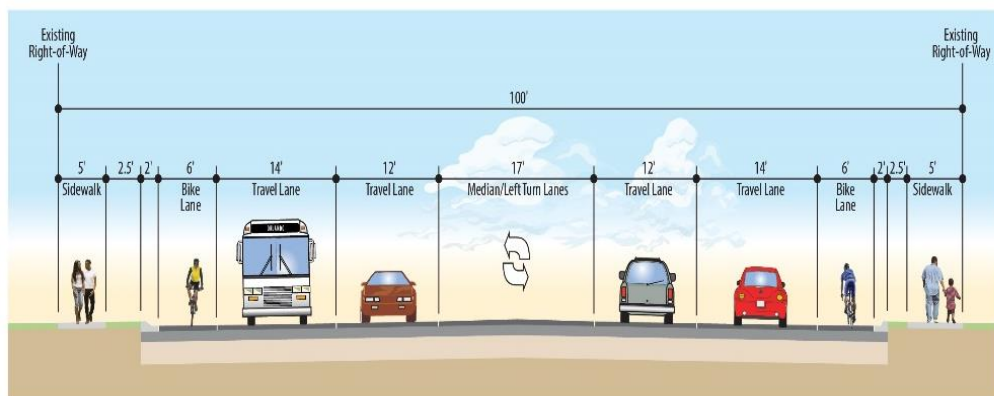
- Realign Phase II Trail along Belco Drive
- Connect Trail to East Side of Pine Hills Rd



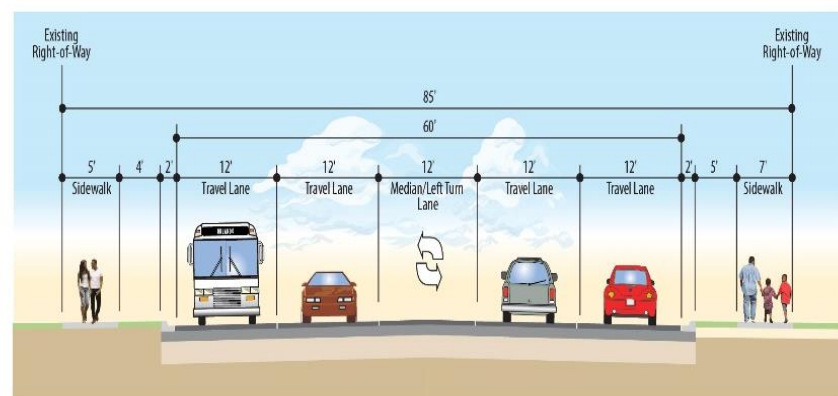


Proposed Typical Sections

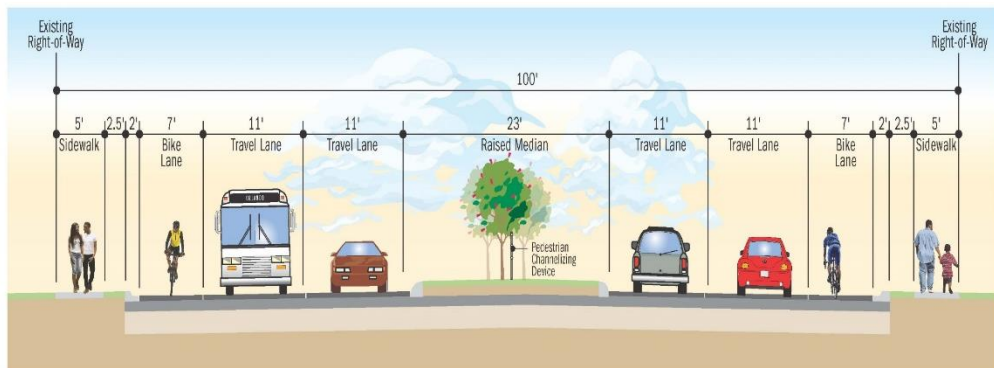
Typical Section Scenarios Based on North and South Segments



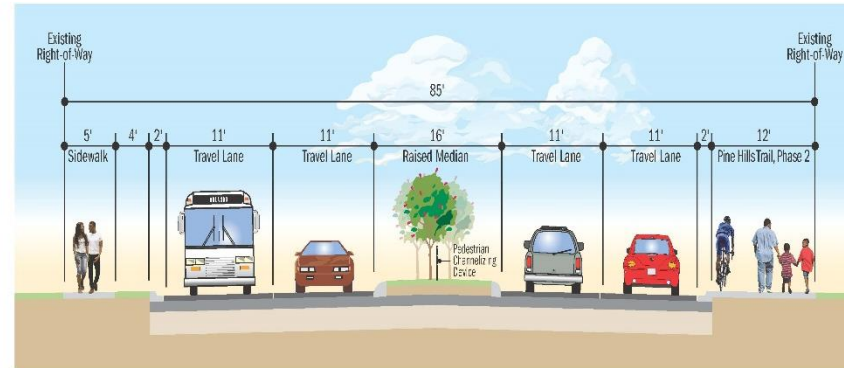
Existing Typical Section Colonial Drive to Silver Star Road



Existing Typical Section Silver Star Road to Bonnie Brae Circle



Proposed Typical Section Colonial Drive to Silver Star Road



Proposed Typical Section Silver Star Road to Bonnie Brae Circle



Potential Safety Measures



Pine Hills Road Pedestrian/Bicycle Safety Study Proposed Safety Measures



■ Improve Street Lighting from Colonial Drive to Silver Star Road (Lighting Improvements already planned by Orange County from Silver Star Road to North Lane)

BENEFITS:

- Improves visibility of pedestrians/bicyclists
- 33 (45%) of the accidents occurred at night – new lighting improvements are expected to reduce this crash experience
- Was identified as the highest requested safety improvement by community survey
- Provides pedestrians/bicyclists with greater sense of security



■ Improve Intersection Characteristics at Silver Star Road

BENEFITS:

- Reconstruct curb returns to allow wider sidewalks to accommodate more pedestrians
- Reduces crossing distances



■ Replace Continuous Center Two-Way Left Turn Lane with Curbed Grass Median

BENEFITS:

- Reduces potential for crashes
- Provides pedestrian refuge in the median while waiting for gaps in traffic. Four pedestrian crashes occurred in the existing center lane.



■ Relocate Existing LYNX Bus Stops

BENEFIT:

- Focuses bus stops near existing or proposed crosswalks with heavy pedestrian/bicycle movements



■ Provide Landscaping in Curbed Median

BENEFITS:

- Can guide pedestrian and bicycle movements to designated crosswalks
- 53% of the community survey respondents requested landscaping improvements



■ Widen Existing East Sidewalk North of Silver Star Road to Accommodate 12' Pine Hills Trail, Phase 2

BENEFITS:

- Addresses lack of bicycle lanes north of Silver Star Road
- Provides an opportunity for safe bicycle travel
- 60% of the survey respondents requested wider sidewalks and/or multi-use path
- Provides connectors to the future LYNX SuperStop and Florida's Coast to Coast Trail



■ Provide Pedestrian Channelizing Devices in Curbed Median at Selective Locations

BENEFIT:

- Can guide pedestrian and bicycle movements to designated crosswalks



■ Provide Flashing Signals and Pedestrian Warning Signs at Mid-Block Pedestrian Crossings

BENEFITS:

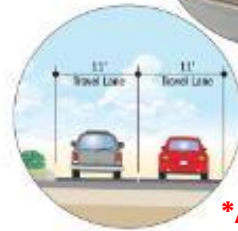
- Encourages pedestrians/bicyclists to use crosswalk
- Increases motorist awareness of crosswalks



■ Reduce Travel Lanes to 11 Feet Wide

BENEFITS:

- Provides traffic calming measure
- Reduces crossing distances



■ Provide Pedestrian/Bicycle Safety Educational Programs

BENEFIT:

- Provides greater awareness and understanding for safe pedestrian and bicycle movements



***Any alterations to Silver Star Road or intersection will require FDOT approval**



Preliminary Estimate

Category	Estimated Cost (11/15/2017)
Road Reconstruction	\$3,029,757
Landscaping	\$294,820
Lighting	\$1,082,369
Transit Adjustments	\$25,740
HAWK Pedestrian Crossing Controls	\$182,870
Multi Use Path	\$492,986
Gateway Features with new Signals	\$769,350
Estimated Total	\$5,877,892



PROJECT COMPLETION SCHEDULE

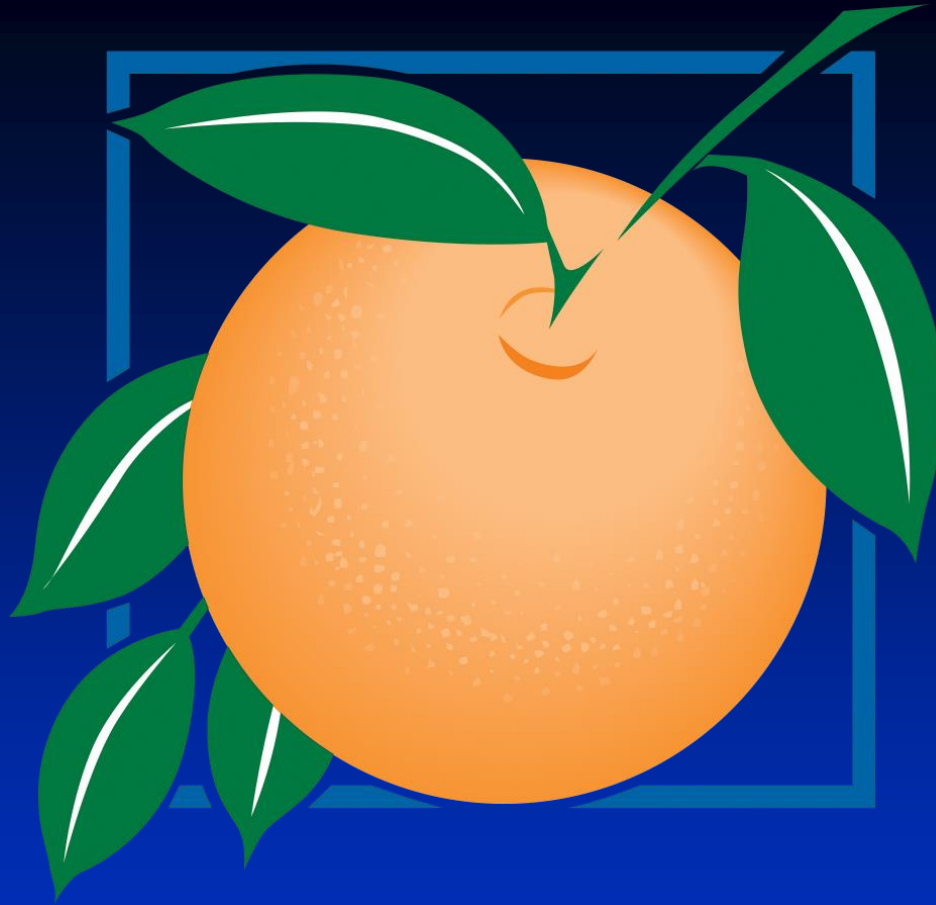
Public Involvement Activity	Target Dates
Local Planning Agency Public Hearing	December
Board of County Commissioners Work Session	February
Board of County Commissioners Public Hearing	March

<http://www.orangecountyfl.net/TrafficTransportation/PineHillsPedestrianBicycleSafetyStudy.aspx>



ACTION REQUESTED

- **Make a finding of consistency with the Orange County Comprehensive Plan**
- **Approve the Pine Hills Pedestrian /Bicycle Safety Study findings and recommendations**



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