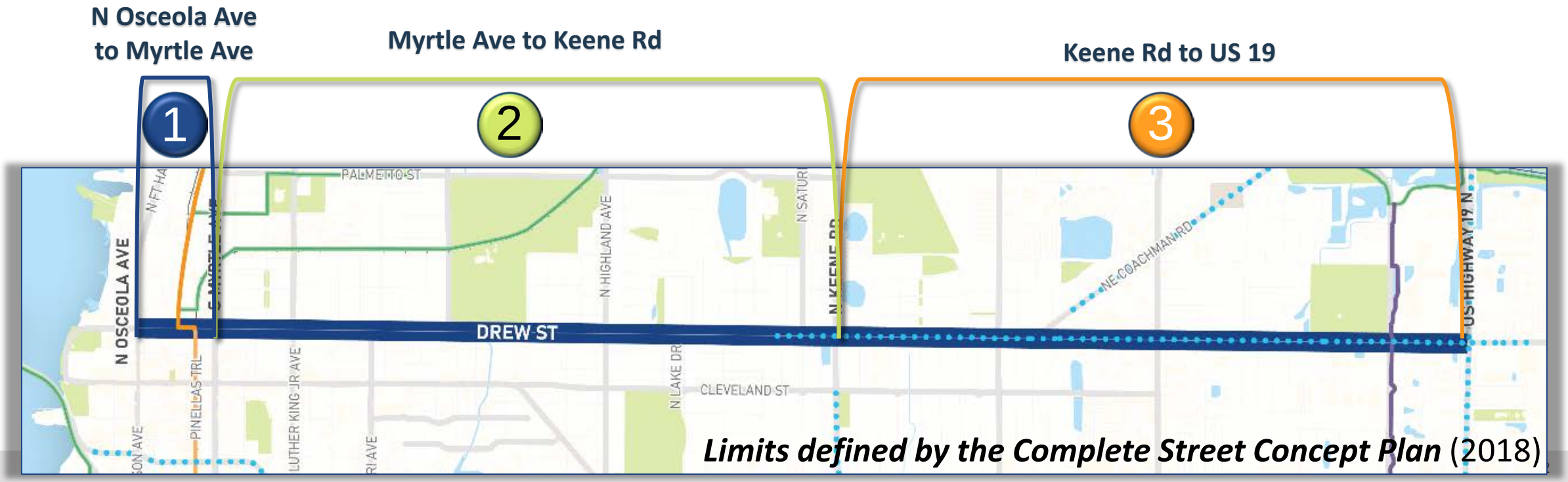
DREW STREET
CORRIDOR STUDY

City of Clearwater Update

November 2, 2021

Study Area

- Drew Street from N Osceola Avenue to US 19
- 4.3-mile corridor
- 3 segments/jurisdictions: City of Clearwater, FDOT, Pinellas County



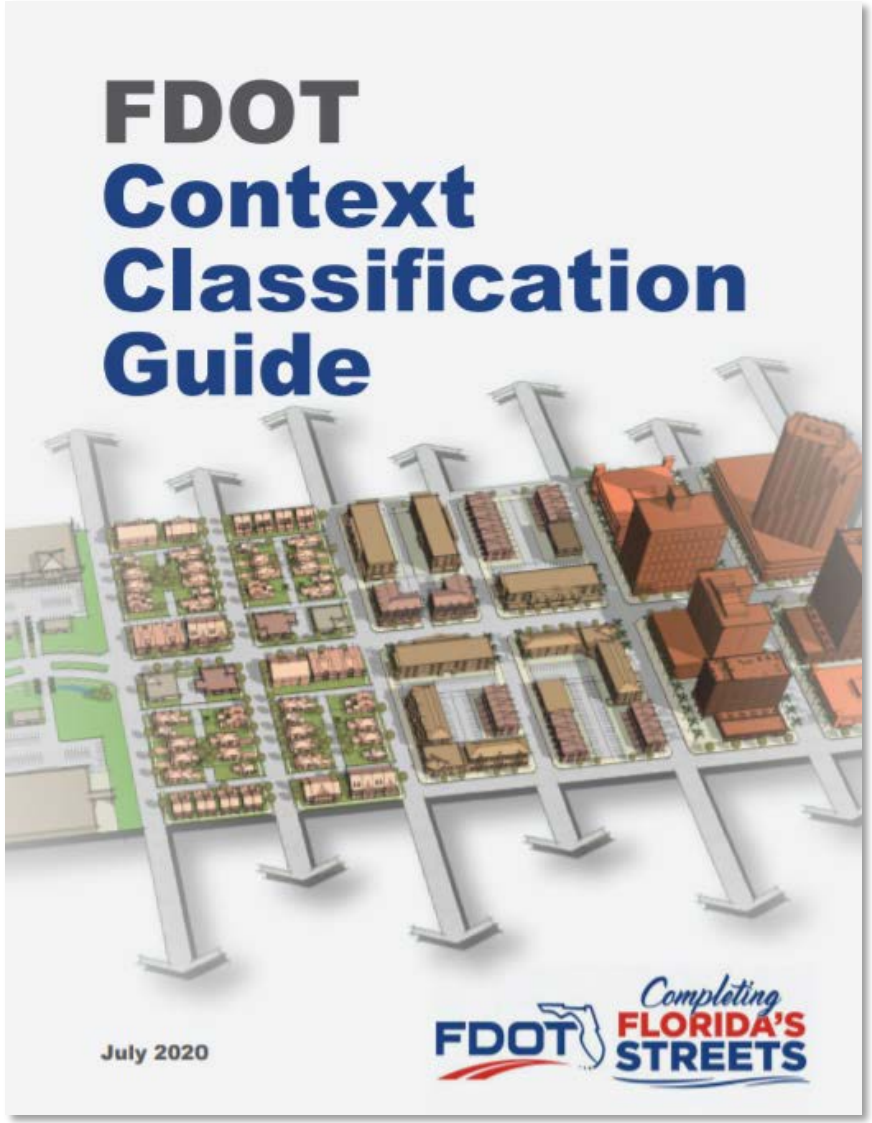
Limits defined by the Complete Street Concept Plan (2018)

Study Overview

- Review existing conditions
- Define future conditions (2045)
- Conceptual Design Review, Development, and Refinement (from City of Clearwater's *Complete Street Concept Plan for Drew Street)*
- Coordinate with stakeholders (throughout process)

Complete Street Concept Design

- Review City of Clearwater's preferred concept from Complete Streets Concept Plan for Drew Street
  - » **FDOT Context Classification**
  - » **Clearwater Context Classification**
  - » **FDOT Design Manual**
  - » **Existing plans and studies**
  - » **Available right-of-way**



Designing for Context & Safety

- **Design Considerations:**
  - » **C4 Urban General: well connected roadway network with small blocks and a mix of uses**
  - » **Allowable design speed: 30-45 mph**
  - » **Multimodal accommodations: bicycle, pedestrian, transit**
  - » **Minimum Travel & Auxiliary Lane Width**
    - *30-35 mph: 10 ft, 40-45 mph: 11 ft, ≥ 50 mph: 12 ft*
  - » **Two-Way Left Turn Lane**
    - *25-35 mph: 11 ft, 40 mph: 12 ft*
  - » **Median Width**
    - *25-35 mph: 15.5 ft, 40-45 mph: 22 ft*
  - » **Sidewalk Width: 6ft**
  - » **Parking on side streets or rear, occasionally in front**

Clearwater Context Classification

Context Classification: Urban Core

Street Type

Street Zone Elements		Thoroughfare	Community Connector	Local Collector	Local Streets
Pedestrian Realm	Frontage Zone	Refer to Downtown Redevelopment Plan and Beach by Design (intent is to create active pedestrian realm)			
	Pedestrian Zone	12' (8')	12' (8')	12' (8')	10' (8')
	Furnishing (landscaping, furnishing, utility)	Preferred	Preferred	Preferred	Preferred
Curb and Gutter	Curb Zone	2'	2'	2'	2'
	Bicycle Recommendations	Separated or on Parallel Streets	Separated or on Parallel Streets	Neighborhood Greenway	Neighborhood Greenway
	On-Street Parking	Analysis Recommended	Encouraged	Encouraged	Encouraged
Traveled Way	Transit Recommendations	High	High	Low	Low
	Desired Operating Speed	25-30 mph	20-30 mph	20-25 mph	15-25 mph
	Number of Lanes	4-6 Lanes	2-4 Lanes	2-4 Lanes	2 Lanes
	Lane Widths	11'	10'-11'	10'-11'	10'
	Crossing Density	1/8 mile	1/8 mile	1/8 mile	Every Block

Design Guidelines

Designing for Context & Safety

- **Speed Management Treatments**
  - » **Enclosure**
    - *Closing in the corridor (example: street trees)*
  - » **Communication**
    - *Enhance visibility and communicate with drivers (speed limit pavement markings, painted and textured crosswalks)*
    - *Communicate with drivers (pavement markings, signs)*
  - » **Deflection**
    - *Raised pedestrian crosswalks*
    - *Pedestrian refuge*

Pedestrian refuge islands can reduce pedestrian crashes by **32%**

Pedestrian Hybrid Beacon (PHB) can reduce pedestrian crashes by **55%**

Leading Pedestrian Intervals (LPIs) can reduce pedestrian crashes by **13%**

Crosswalk visibility enhancements can reduce crashes by **23-48%**

Rectangular Rapid-Flashing Beacons (RRFBs) can reduce pedestrian crashes by **47%**

Raised crosswalks can reduce pedestrian crashes by **45%**

Drew Street Segment 1: Existing Conditions

Signalized Intersection Crash Types

Drew St @ Osceola Ave
- 3 Rear End
- 1 Sideswipe
- 1 Left Turn
- 1 Unknown

Drew St @ Ft Harrison
- 7 Rear End
- 22 Angle
- 3 Pedestrian
- 3 Hit Fixed Object
- 1 Left Turn
- 4 Unknown

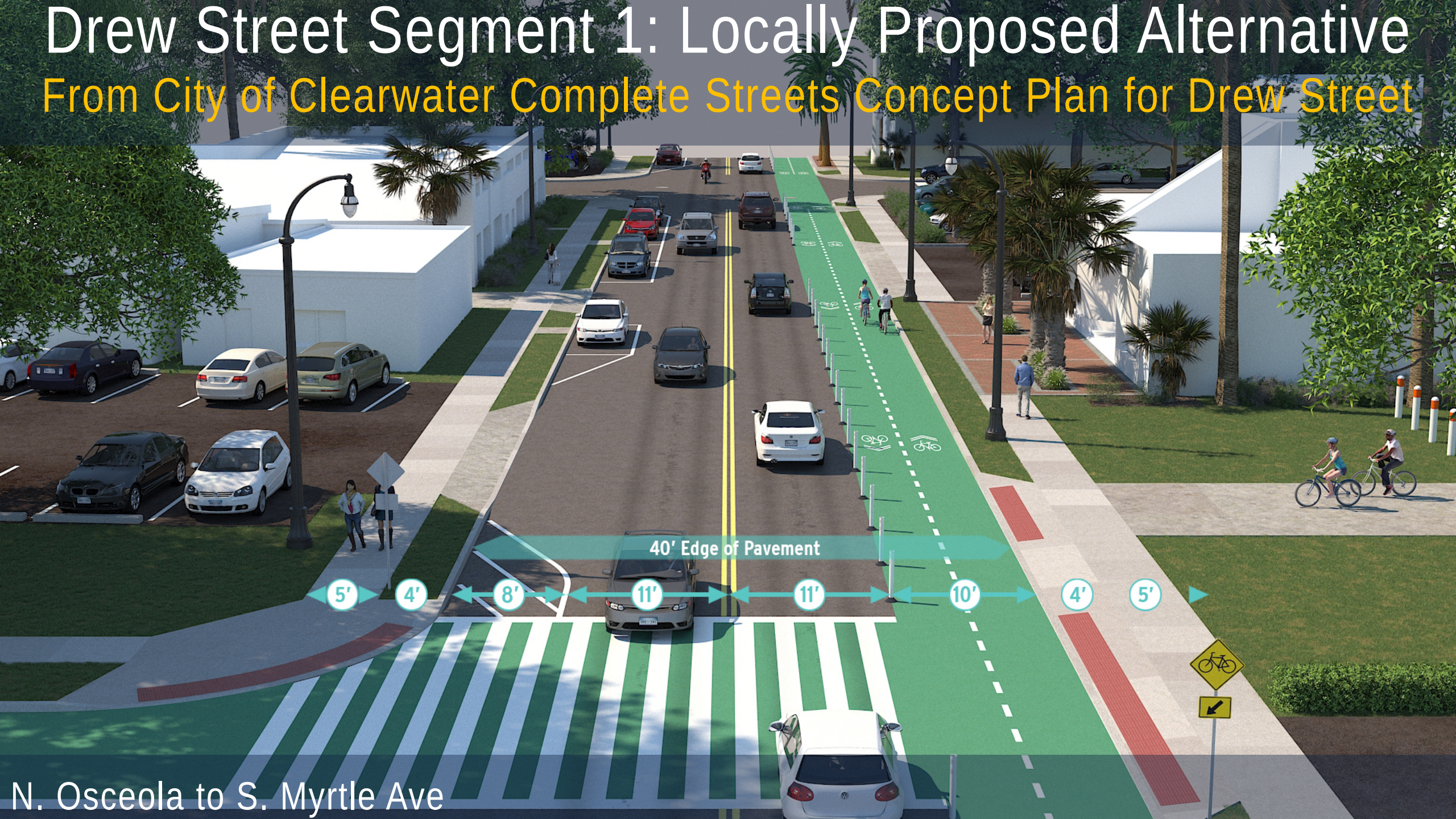
Drew St @ Myrtle Ave
- 21 Rear End
- 29 Angle
- 5 Sideswipe
- 2 Head on
- 1 Pedestrian
- 20 Left Turn
- 16 Unknown

(2015-2019)

N. Osceola to S. Myrtle Ave

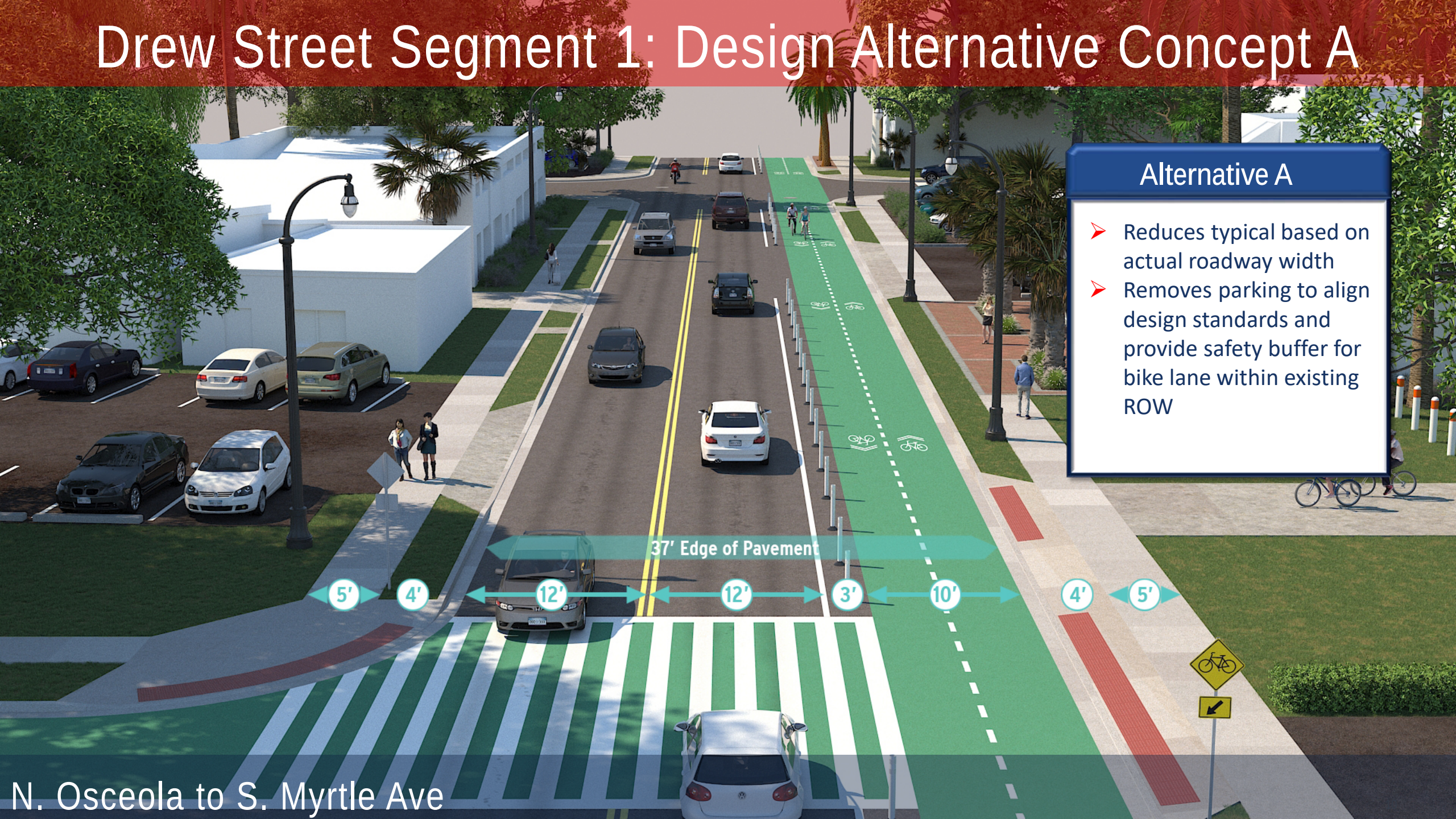
Drew Street Segment 1: Locally Proposed Alternative

From City of Clearwater Complete Streets Concept Plan for Drew Street



N. Osceola to S. Myrtle Ave

Drew Street Segment 1: Design Alternative Concept A

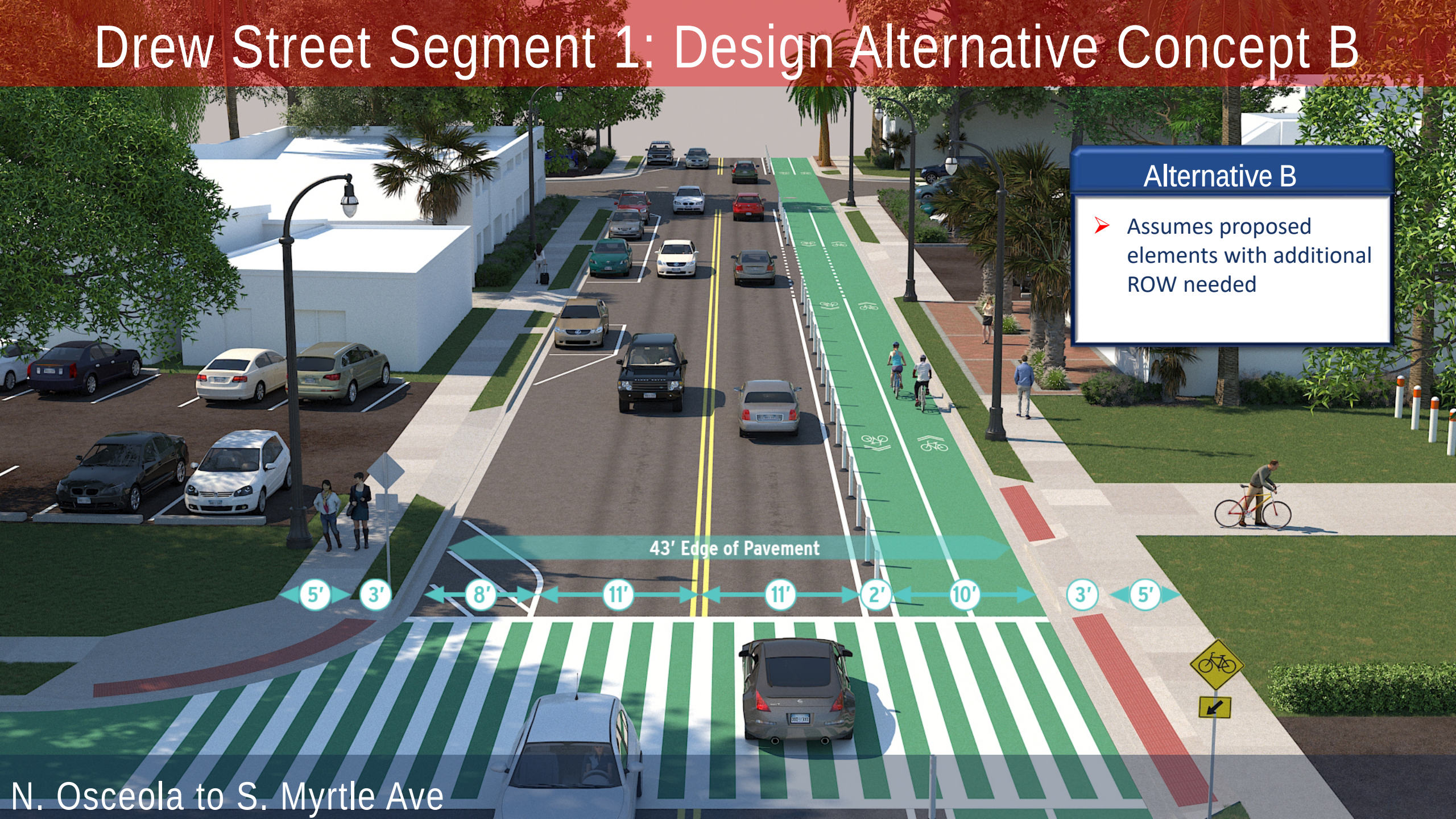


Alternative A

- Reduces typical based on actual roadway width
- Removes parking to align design standards and provide safety buffer for bike lane within existing ROW

N. Osceola to S. Myrtle Ave

Drew Street Segment 1: Design Alternative Concept B



N. Osceola to S. Myrtle Ave

Drew Street Segment 1: Proposed Recommendation

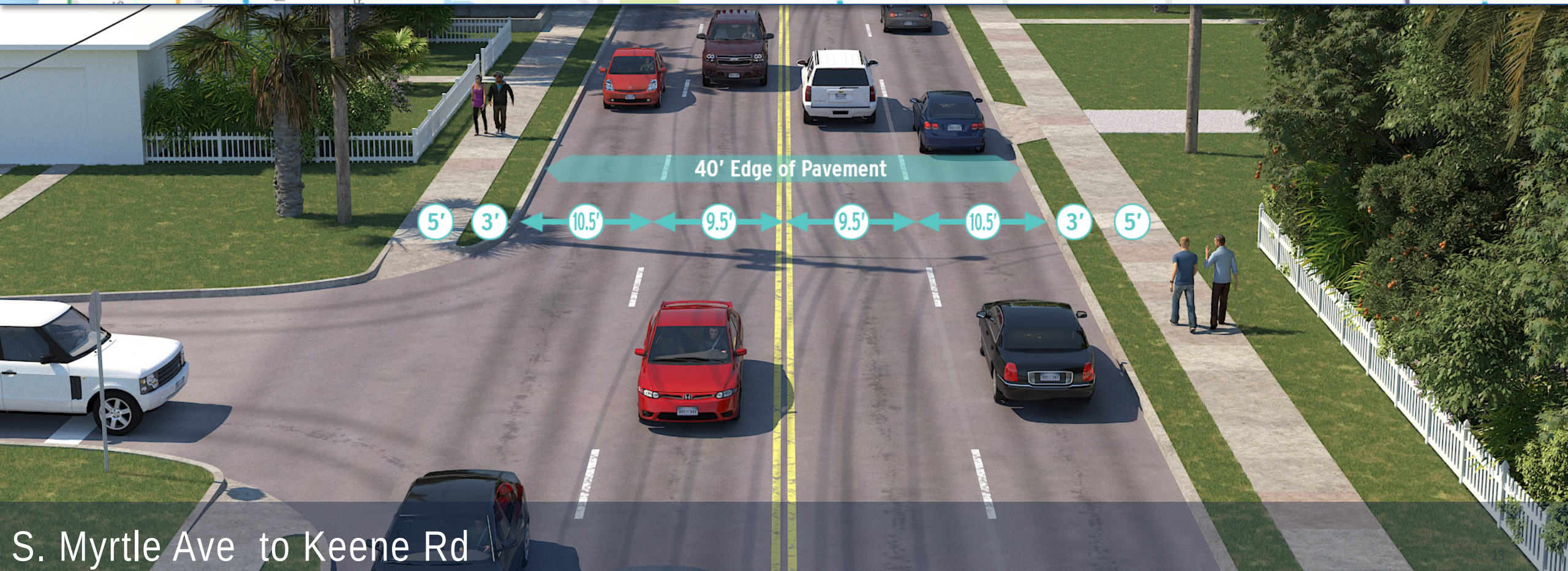
- Recommend **Alternative A** without additional right-of-way needs
- Apply safety treatment options where appropriate
- Reduce speed in areas of 35 mph to 30 mph
- ITS Upgrades (cameras at Ft. Harrison, S Myrtle)

Potential Safety Treatments

- **Enhanced crosswalks** (painted, textured, raised, side street crossings, mid-block & intersection, and yield to ped/bike signs)
- **Curb extension** and/or **bulb outs** (w/parking)
- **Enhanced bike lanes** (painted, buffer)
- **Speed limit pavement markings**
- **Speed reduction** and/or **target speeds**
- **On-street parking**
- **Curb ramps** w/detectable warning
- **Rapid flashing beacon** or **pedestrian hybrid beacon**
- Enhanced **lighting**
- Street **furniture**
- Street **trees**

N. Osceola to S. Myrtle Ave

Drew Street Segment 2: Existing Conditions



S. Myrtle Ave to Keene Rd

Drew Street Segment 2: Existing Conditions

Signalized Intersection Crash Types (2015-2019)

Drew St @ Martin Luther King Jr Ave
- 5 Rear End
- 14 Angle
- 1 Sideswipe
- 1 Hit - Fixed Object
- 1 Hit – Not fixed object
- 2 Left Turn

Drew St @ Cleveland St
- 2 Rear End
- 1 Angle
- 3 Left Turn

Drew St @ Jefferson Ave
- 2 Rear End
- 1 Angle
- 1 Sideswipe

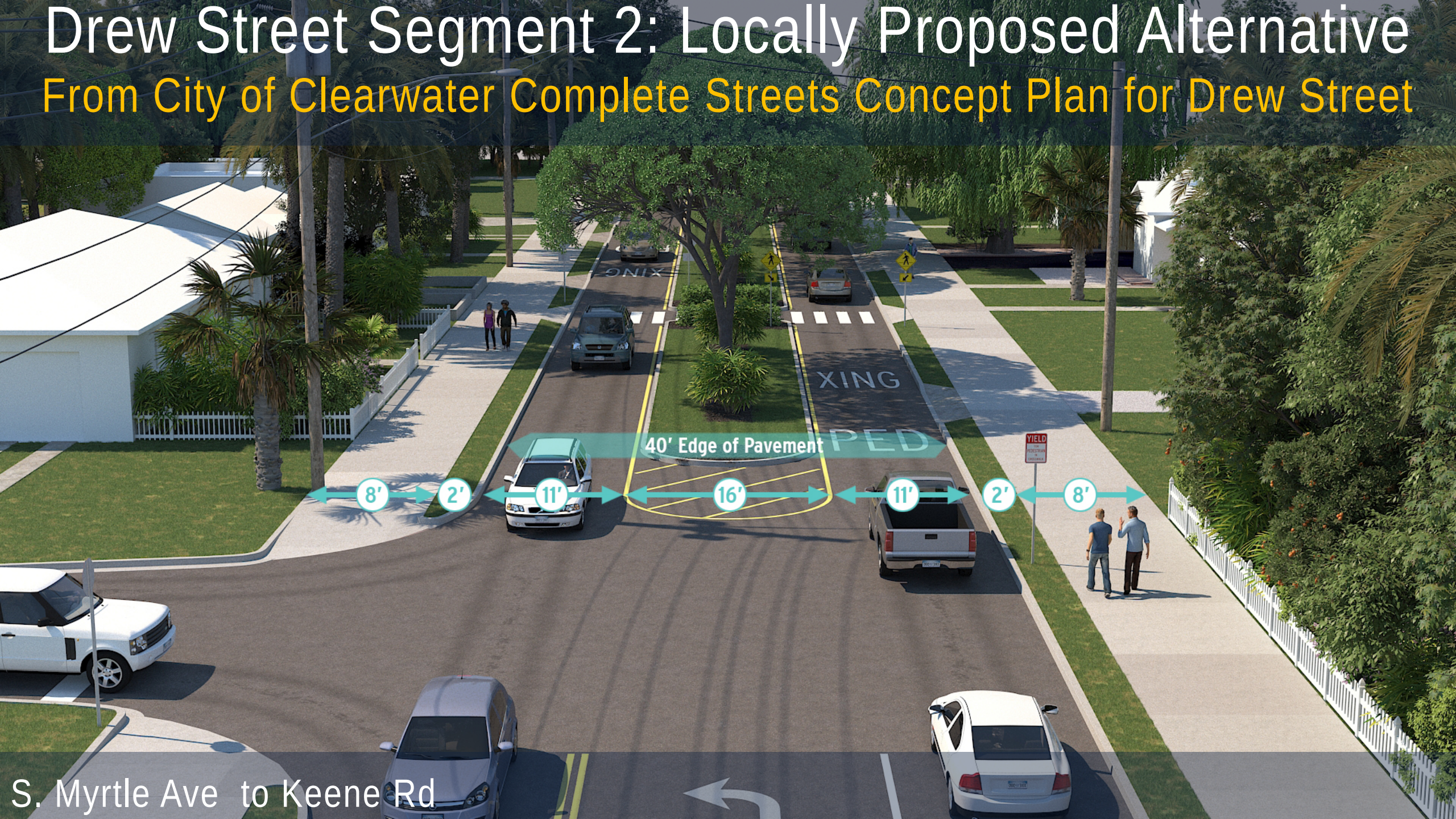
Drew St @ N Betty Ln
- 16 Rear End
- 6 Angle
- 4 Sideswipe
- 2 Hit: Fixed Object
- 2 Left Turn
- 1 Right Turn

Drew St @ Highland Ave
- 14 Rear End
- 14 Angle
- 3 Sideswipe
- 9 Left Turn

Drew St @ N Saturn Ave
- 9 Rear End
- 5 Angle
- 3 Sideswipe
- 1 Bike
- 2 Left Turn

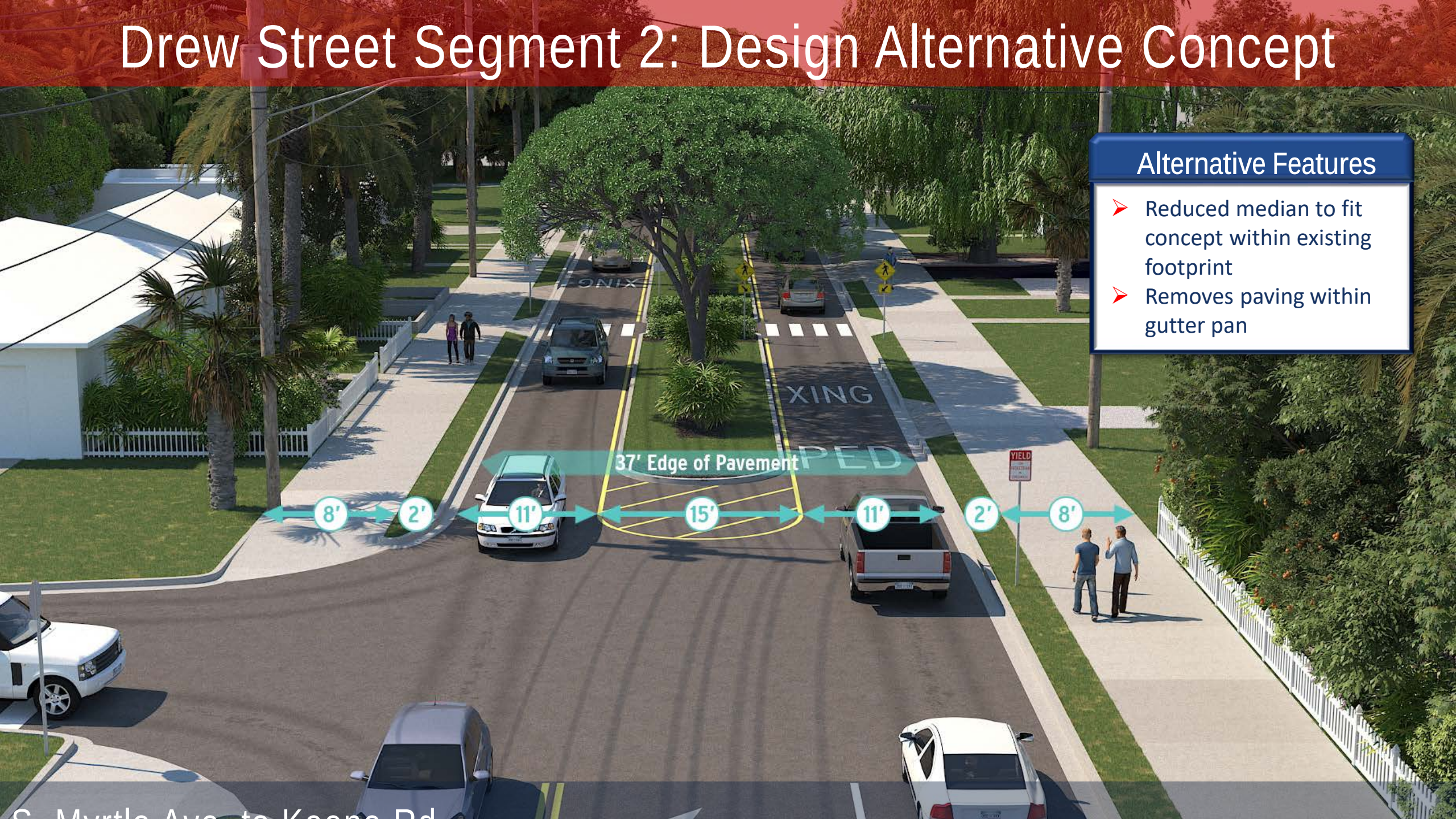
Drew Street Segment 2: Locally Proposed Alternative

From City of Clearwater Complete Streets Concept Plan for Drew Street



S. Myrtle Ave to Keene Rd

Drew Street Segment 2: Design Alternative Concept



Alternative Features

- Reduced median to fit concept within existing footprint
- Removes paving within gutter pan

S. Myrtle Ave. to Keene Rd.

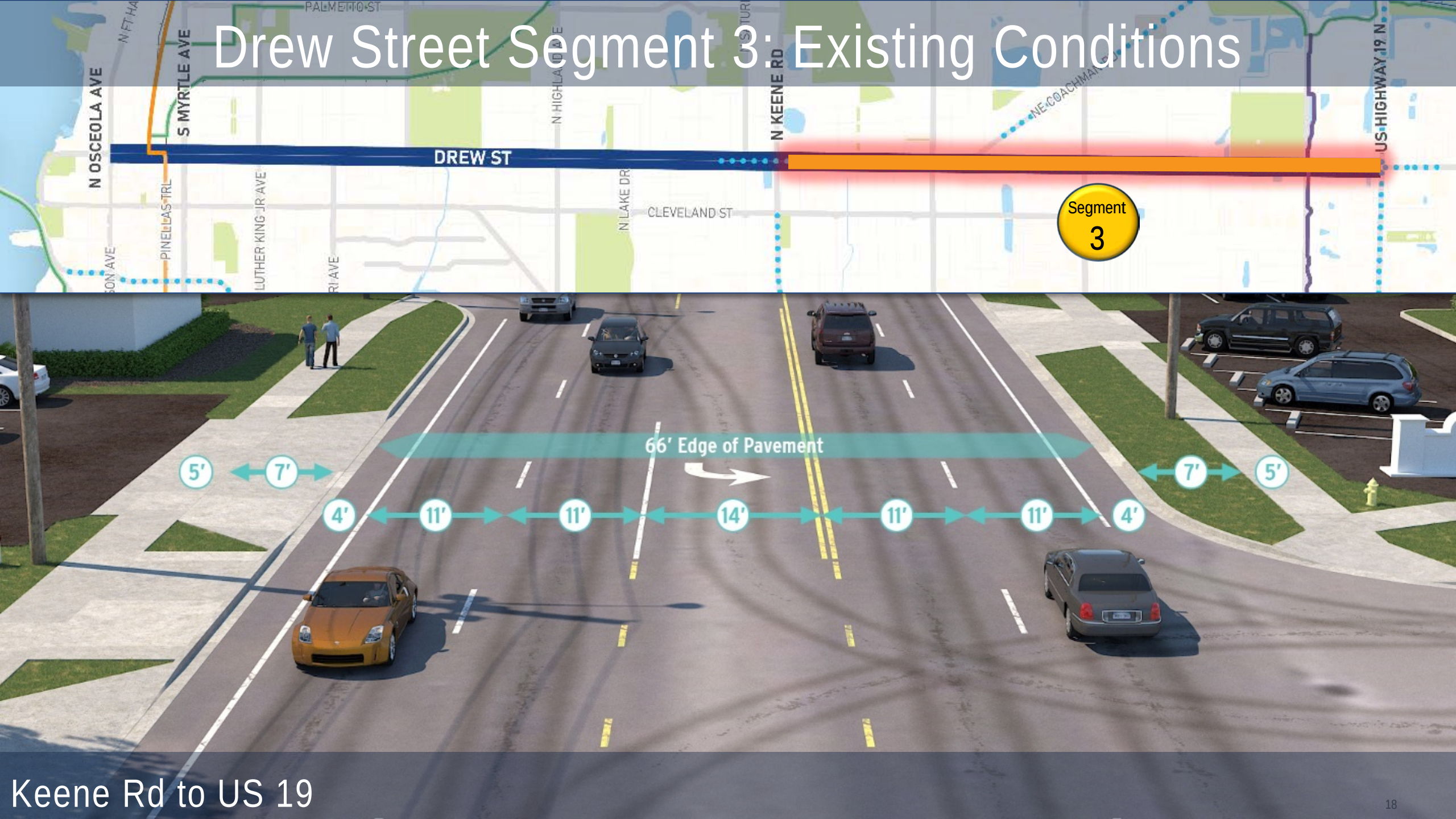
Drew Street Segment 2: Proposed Recommendations

- **Apply safety treatment options where appropriate**
  - » **Avoid medians that block access locations**
  - » **Support transit with pedestrian refuge islands where there are bus stop pairs**
- **Speed reduction**
  - » **(40 to 35 mph)**
- **ITS Upgrades** (cameras at N Martin Luther King Blvd, NE Cleveland St, DMS west of N Jupiter Ave)

Potential Safety Treatments

- **Enhanced crosswalks** (painted, textured, raised, side street crossings, mid-block & intersection, and yield to ped/bike signs)
  - Leading Pedestrian Interval, Pedestrian Hybrid Beacon, turning restrictions
  - No right on red
  - Marked crosswalks at unsignalized intersections to emphasize short blocks **coordinate w/traffic ops.*
- **Curb extension** and/or **bulb outs**
- **Pedestrian sign R1-6a (gateway treatment) at school crossings**
- **Pedestrian refuge island**
- **Speed limit pavement markings**
- **Speed reduction** (**target speeds**)
- **Curb ramps** w/detectable warning
- **Rapid flashing beacon** or **pedestrian hybrid beacon**
- Enhanced **lighting**
- Street **furniture**
- Street **trees**

Drew Street Segment 3: Existing Conditions



Keene Rd to US 19

Drew Street Segment 3 Existing Conditions

Signalized Intersection Crash Types

Drew St @ Keene Rd
- 32 Rear End
- 7 Angle
- 3 Sideswipe
- 2 Head on
- 1 Pedestrian
- 1 Single Vehicle
- 1 Hit: Fixed Object
- 9 Left Turn

Drew St @ Hercules Ave
- 14 Rear End
- 11 Angle
- 6 Sideswipe
- 1 Head on
- 2 Bike
- 6 Left Turn
- 1 Hit: Non fixed object

Drew St @ NE Coachman Rd
- 9 Rear End
- 1 Angle
- 3 Sideswipe
- 1 Head on
- 2 Bike
- 1 Pedestrian
- 1 Right Turn

Drew St @ Old Coachman Rd
- 68 Rear End
- 14 Angle
- 13 Sideswipe
- 3 Head on
- 4 Bike
- 1 Pedestrian
- 3 Single Vehicle
- 3 Hit: Fixed Object
- 1 Hit: Non-Fixed Object
- 2 U-Turn
- 14 Left Turn
- 2 Right Turn
- 18 Unknown

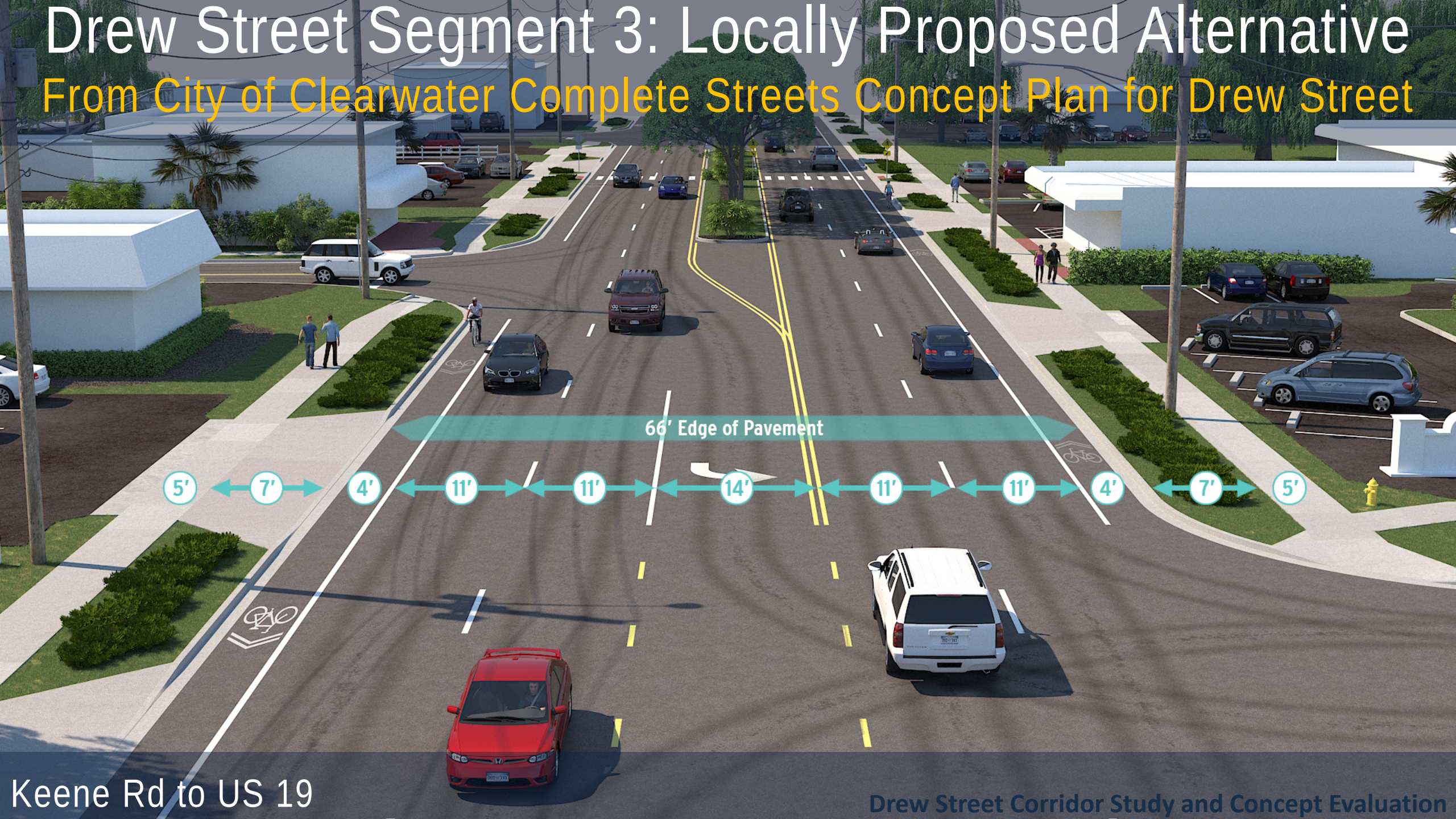
Drew St @ N Belcher Rd
- 99 Rear End
- 40 Angle
- 29 Sideswipe
- 3 Head on
- 4 Pedestrian
- 1 Bike
- 2 Single Vehicle
- 1 Hit: Non Fixed Object
- 2 U-Turn
- 16 Left Turn
- 1 Right Turn
- 35 Unknown

Drew St @ US 19
- 164 Rear End
- 55 Angle
- 54 Sideswipe
- 3 Head on
- 5 Bike
- 2 Pedestrian
- 2 Single Vehicle
- 6 Hit: Fixed Object
- 2 U-Turn
- 7 Left Turn
- 2 Right Turn
- 31 Unknown

(2015-2019)

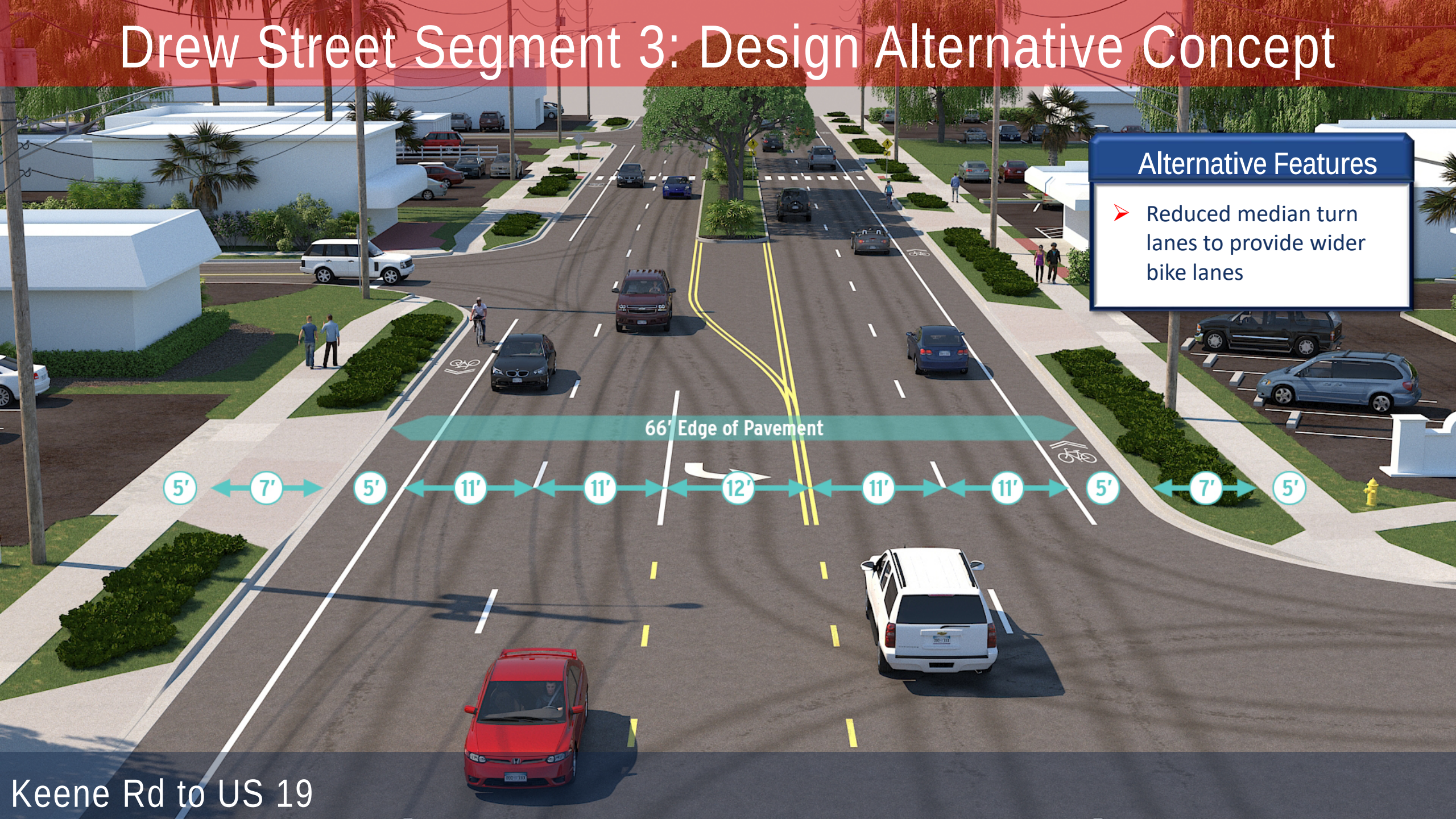
Drew Street Segment 3: Locally Proposed Alternative

From City of Clearwater Complete Streets Concept Plan for Drew Street



Keene Rd to US 19

Drew Street Segment 3: Design Alternative Concept



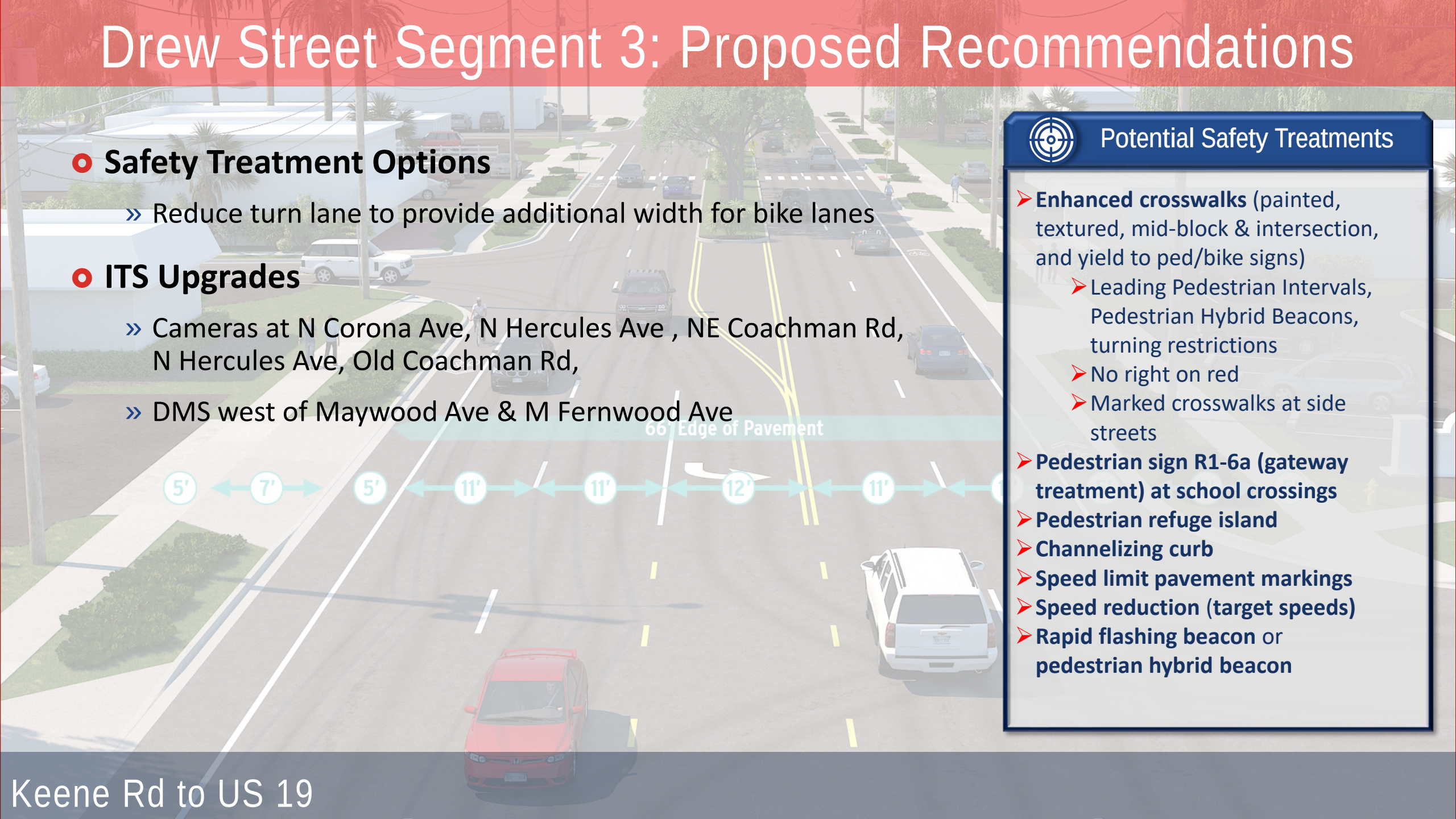
Alternative Features

- Reduced median turn lanes to provide wider bike lanes

Keene Rd to US 19

Drew Street Segment 3: Proposed Recommendations

- **Safety Treatment Options**
  - » Reduce turn lane to provide additional width for bike lanes
- **ITS Upgrades**
  - » Cameras at N Corona Ave, N Hercules Ave , NE Coachman Rd, N Hercules Ave, Old Coachman Rd,
  - » DMS west of Maywood Ave & M Fernwood Ave

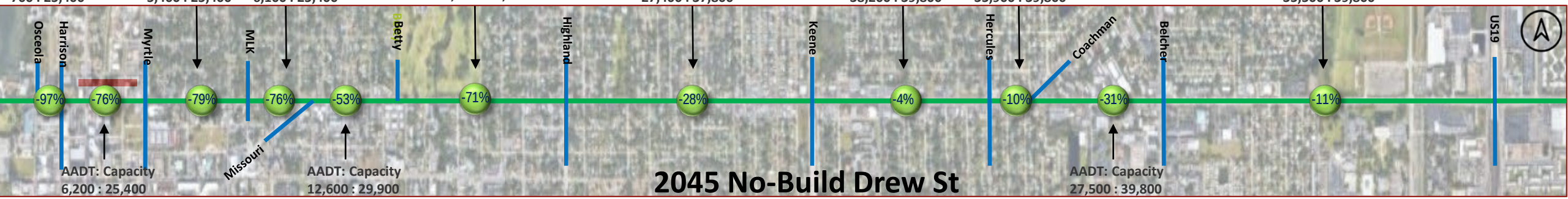


Potential Safety Treatments

- **Enhanced crosswalks** (painted, textured, mid-block & intersection, and yield to ped/bike signs)
  - Leading Pedestrian Intervals, Pedestrian Hybrid Beacons, turning restrictions
  - No right on red
  - Marked crosswalks at side streets
- **Pedestrian sign R1-6a (gateway treatment) at school crossings**
- **Pedestrian refuge island**
- **Channelizing curb**
- **Speed limit pavement markings**
- **Speed reduction (target speeds)**
- **Rapid flashing beacon** or **pedestrian hybrid beacon**

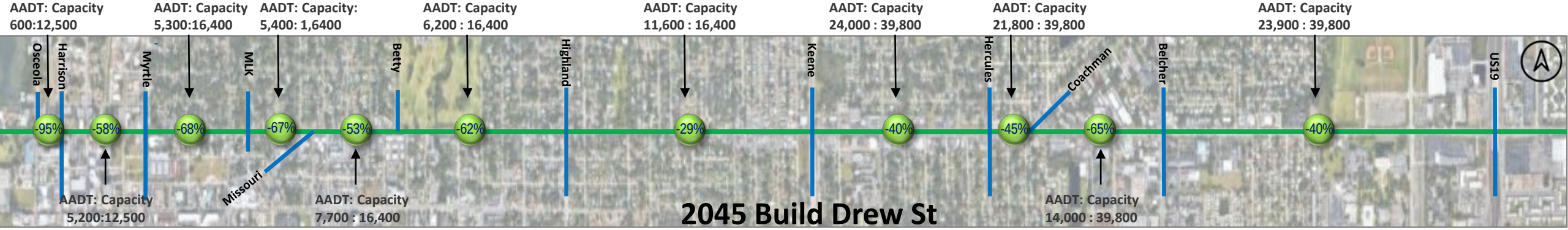
2045 Build Operations

- Drew Street lane reduction for Segments 1 & 2 does not negatively impact Drew Street operations
  - » **Specific level of service issues at US 19 & Drew Street**
- Reducing speed limits will not negatively impact the Drew Street operations
- No major impacts identified on SR 60 as a result of reduced capacity on Drew Street



Segment #1 & Segment #2 operations are not significantly impacted by Build Alternative

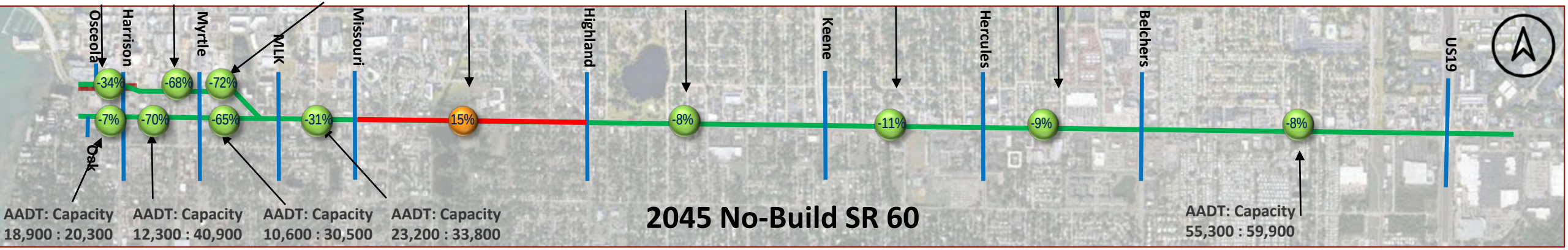
Segment #3 operations improve in Build Alternative



AADT is under roadway capacity

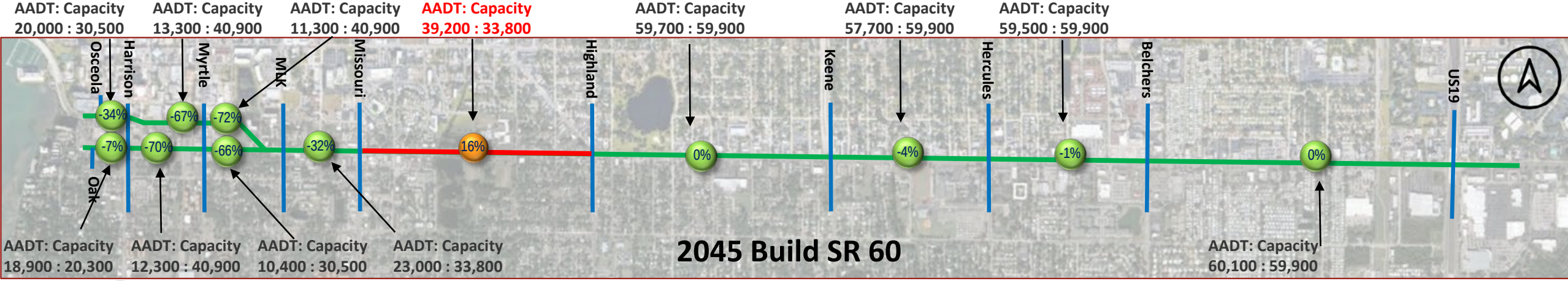
ADDT is over roadway capacity

- Capacity is estimated under FDOT 2020 Quality/ Level of Service Handbook
- Difference Rate = (AADT – Capacity)/Capacity * 100%
- The less the difference rate, the better the performance
- Difference rate larger than 0% means the LOS deteriorates



Impacts from reduced capacity on Drew St. are negligible

Minor operational impacts between Missouri and Highland (1% deterioration)



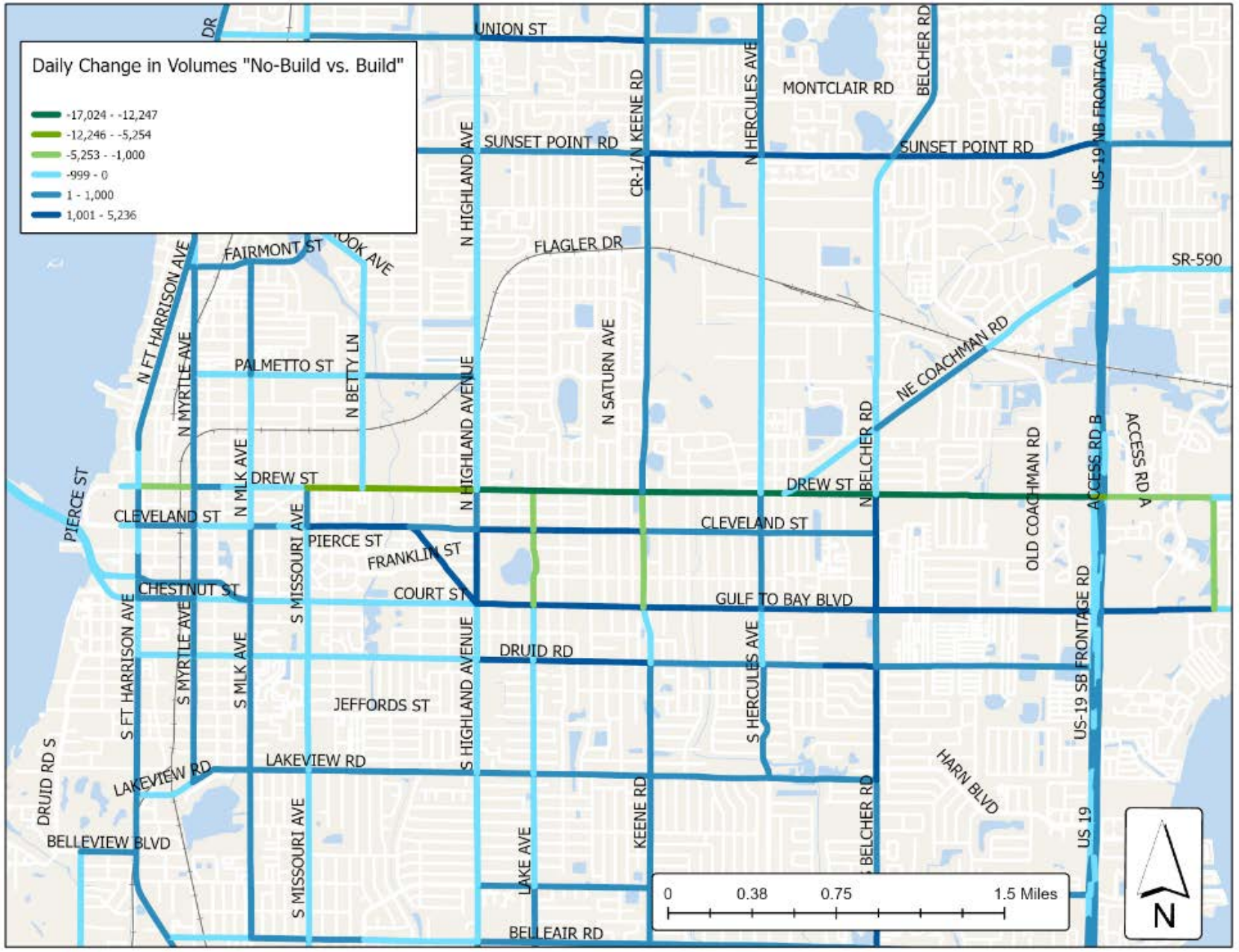
AADT is under roadway capacity

AADT is over roadway capacity

- Capacity is estimated under FDOT 2020 Quality/ Level of Service Handbook
- Difference Rate = (AADT – Capacity)/Capacity * 100%
- The less the difference rate, the better the performance
- Difference rate larger than 0% means the LOS deteriorates

Traffic Distribution

- Daily volumes on Drew Street reduced up to 17,000 vehicles daily
- Traffic primarily redistributes to the following roadways:
  - **SR 60**
  - **Cleveland Street**
  - **Druid Road**
  - **Sunset Point Road**
  - **Lakeview Road**
- All affected roadways within study area have volume to capacity ratio less than 1.0



Next Steps

- **Fall –Winter 2021**
  - Intersection Control Evaluation (ICE)
  - Lane Repurposing Report
  - FDOT Drew Street Design Scope Development

Thank you!

Contacts

FDOT Project Manager: **Brian Shroyer**
Brian.Shroyer@dot.state.fl.us