



CHARLOTTE
CHARLOTTE-MECKLENBURG
PLANNING

Elizabeth Area Plan

Traffic Analysis Brownbag

October 27, 2010

Citizen Engagement

Brownbag #1
March 23, 2010
Market
Analysis

Meeting #7
April 7, 2010
Land Use

Meeting #8
May 5, 2010
Land Use
Transportation
Concepts

Meeting #9
June 23, 2010
7th Street Land
Use &
Transportation

Meeting #10
October 20, 2010
Land Use,
Streetscape,
Transit Station
Area, PED

Meeting #11
Nov/Dec 2010
Staff Response
to CAG
Comments

Brownbag #2
October 27, 2010
★ Traffic Analysis ★

Public Meeting #3
TBD
Present Draft
Area Plan

**Begin Plan
Adoption
Process**

Public Meeting #2
June 9, 2010
Progress Report &
Preliminary
Transportation
Analysis

Meeting #1
Oct. 14, 2009
Introduction
Issue
Identification
Vision
Statement

Meeting #2
Nov. 4, 2009
Vision Statement
Introduction to
Land Use

Meeting #3
Dec. 2, 2009
Plan Process
Transit Corridor
Transportation

Meeting #4
Jan. 6, 2010
Parks/Open
Space
Greenways
Environment

Meeting #5
Feb. 3, 2010
Land Use

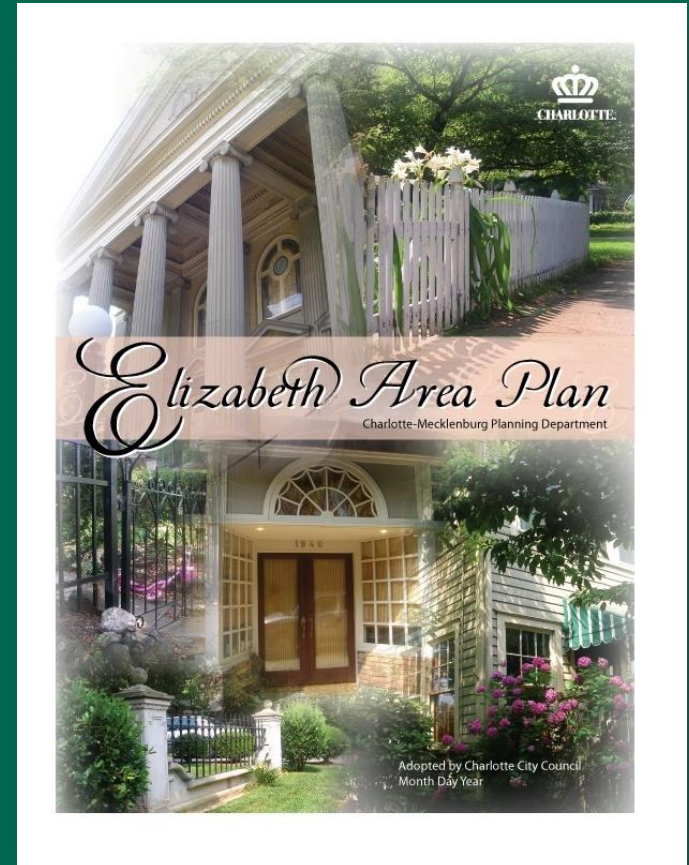
Meeting #6
March 3, 2010
Community
Design

Traffic Analysis

- Road Diet Scenarios
- Performance Measures
- Key Findings

Draft Recommendations

- Pedestrian Crossings
- Future Cross-Sections
- PED Overlay District



Baseline Scenario

- Existing condition of reversible lanes

Conversion Scenarios

- Center two-way left-turn lane with intermittent median pedestrian refuge islands



Rozzelles Ferry Rd. @
Zebulon Ave.

Existing Condition

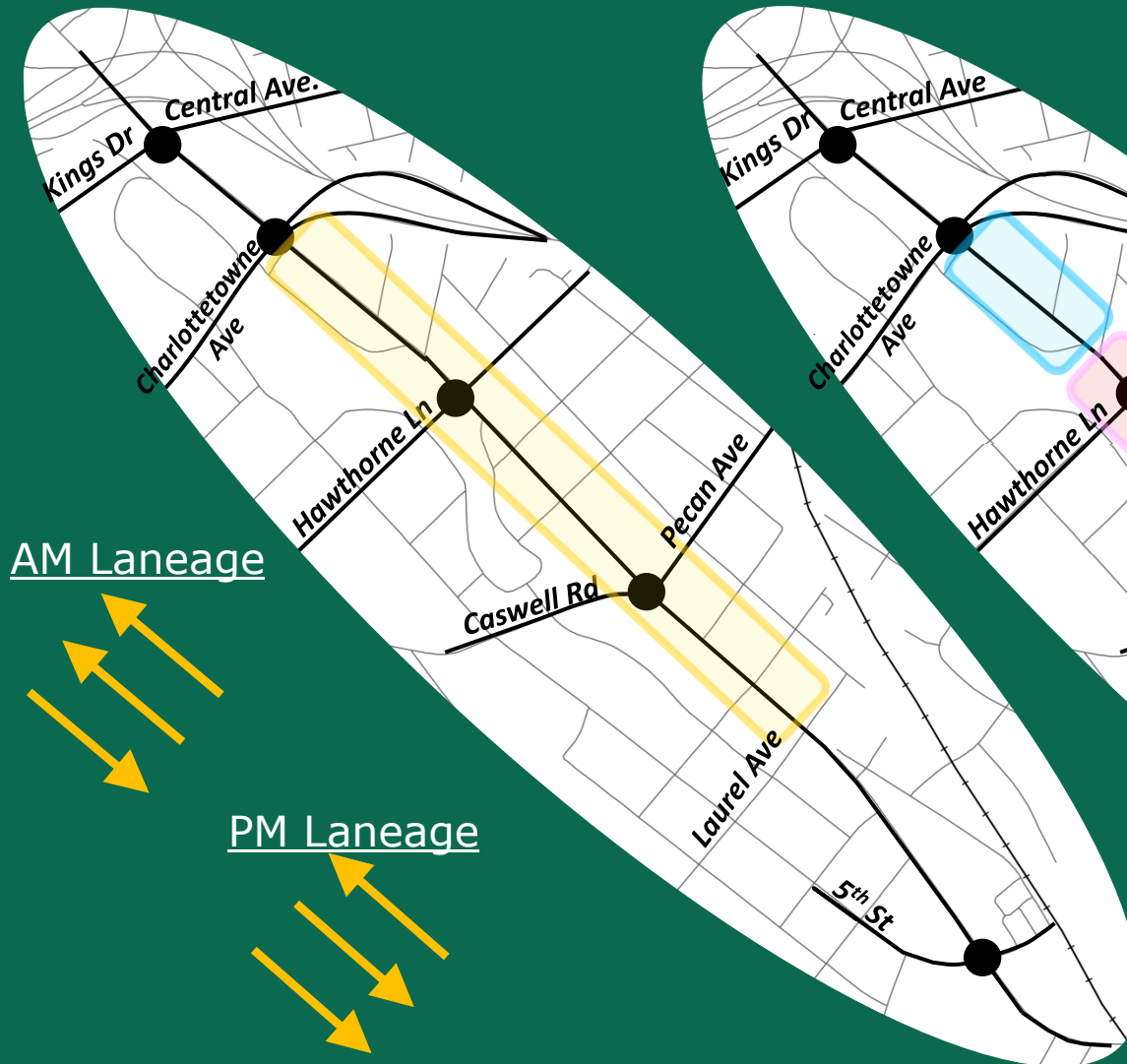




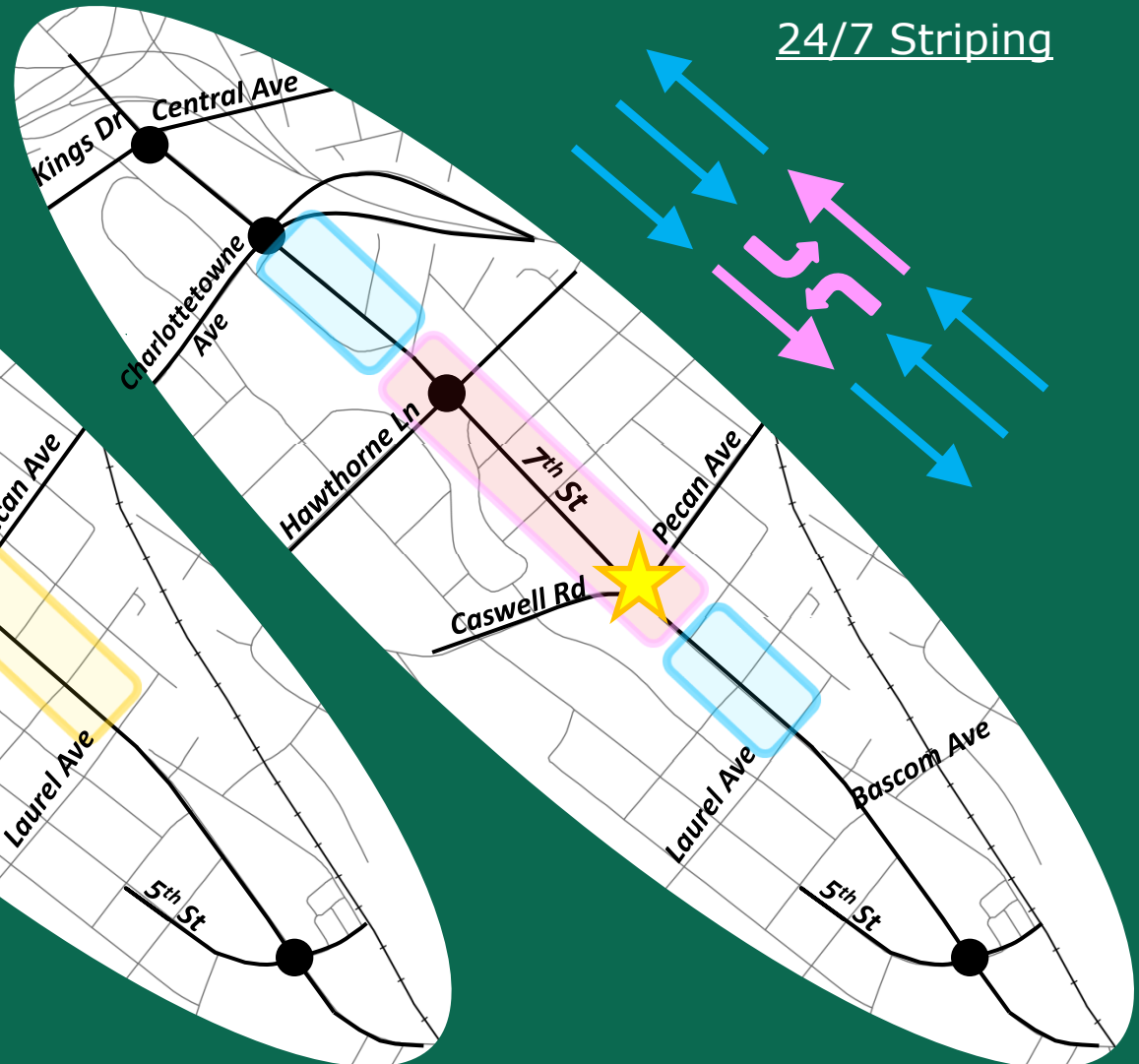
CITY OF CHARLOTTE

Lane Assumptions

Existing Laneage



Three Lane Conversion

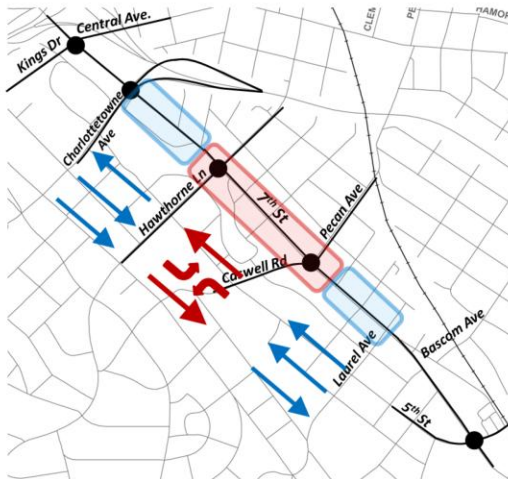


Challenging Intersection

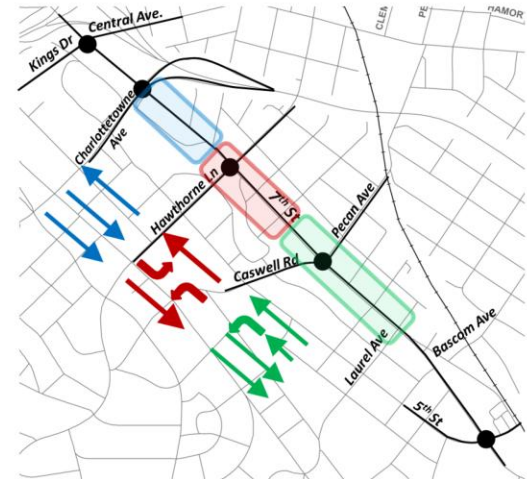


Alternate Scenarios

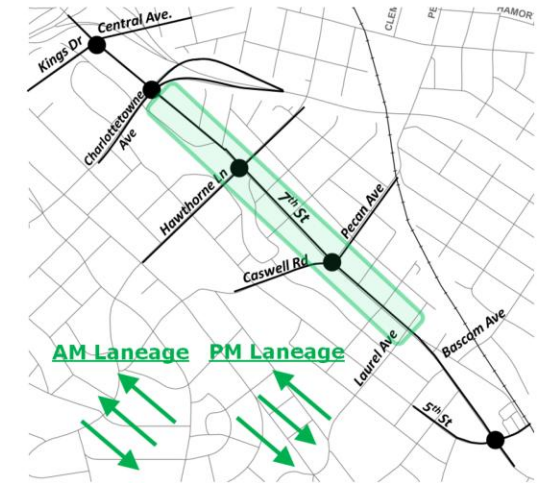
Alternative A
Eliminate Lefts on Pecan/Caswell



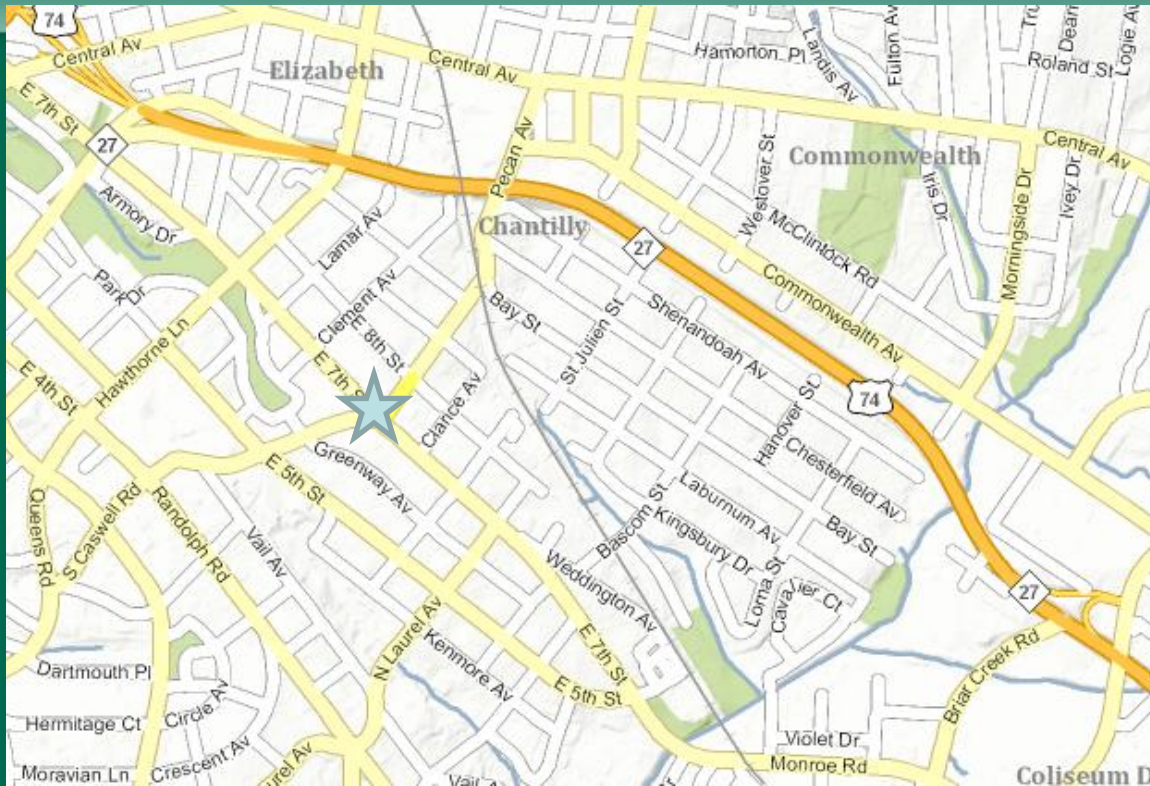
Alternative B
Partial Widening of 7th Street



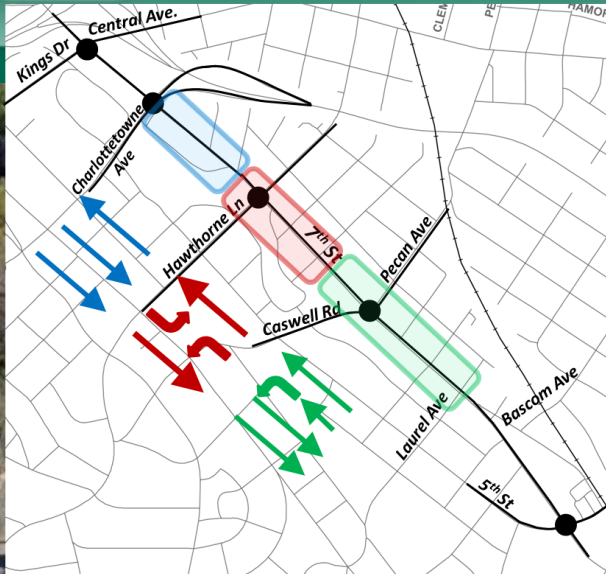
Alternative C
Add Signalized Crosswalk



Alt. A – Eliminate Lefts



Alt. B – Partial Widening



Widen to Laurel

Off-peak parking



Alt. C – Keep Reversible Lanes



Add signalized crosswalks



Staff Concepts Presented to CAG (June 2010)

- "A" Eliminate lefts onto 7th
- ~~Partial widening~~ from Pecan/Caswell to Laurel
- "C" Retain reversible lanes but add more crosswalks

CAG Recommendation (June 2010)

- "A-1" Adjust signal timing but retain lefts onto 7th
- "A-2" Eliminate lefts onto 7th

Summary of Alternatives



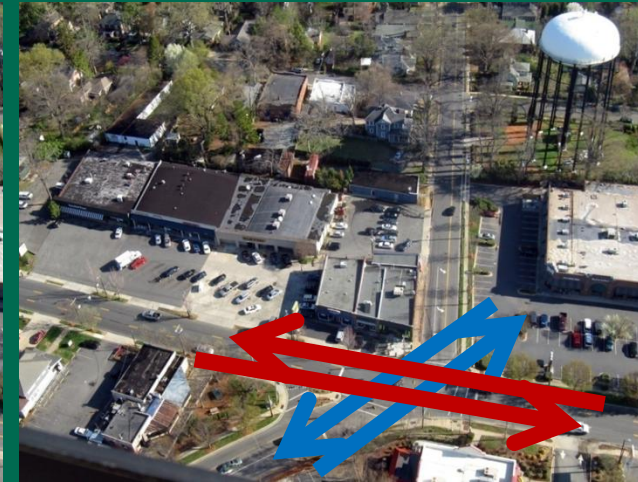
Road Diet

- **4-phase** signal cycle
- Left arrow from 7th onto Caswell
- Retain lefts from Pecan and Caswell onto 7th



Alternative A-1

- **3-phase** signal cycle
- Eliminate left arrow (yield only) from 7th onto Caswell
- Retain lefts from Pecan and Caswell onto 7th



Alternative A-2

- **2-phase** signal cycle
- Eliminate left arrow (yield only) from 7th onto Caswell
- Eliminate lefts from Pecan and Caswell onto 7th

Intersection Delay

- Measured in Seconds
- Compare to timing of signal phase
- Best understood as **number of missed lights**

Queue Length

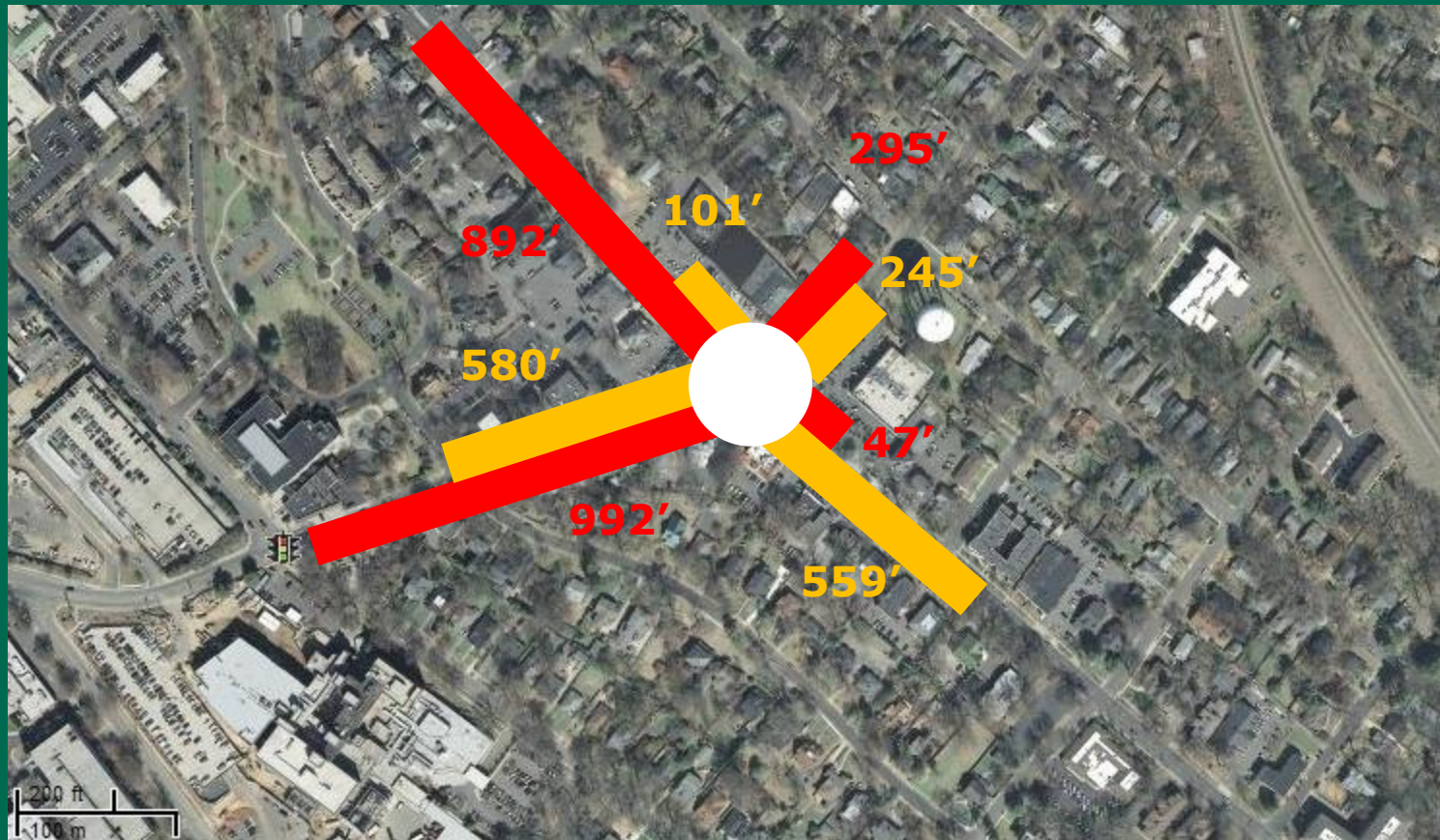
- Measured in Feet
- Compare distance to block and signal spacing
- Best understood as **length of back-up at a light**

PM Intersection Delay

E. 7th @ Pecan / Caswell: PM-Peak Intersection Delay (seconds)				
Intersection Approach	Baseline	Road-Diet	Alt. A-1	Alt. A-2
Outbound 7th	24.4	181.7	211.7	179.3
Inbound 7th	60.7	67.9	66.3	53.9
Caswell	81.3	206.0	222.2	35.6
Pecan	180.6	16.8	46.0	25.6

1-2 missed green lights for outbound traffic

PM Average Queue Length



Baseline Scenario

Road-Diet

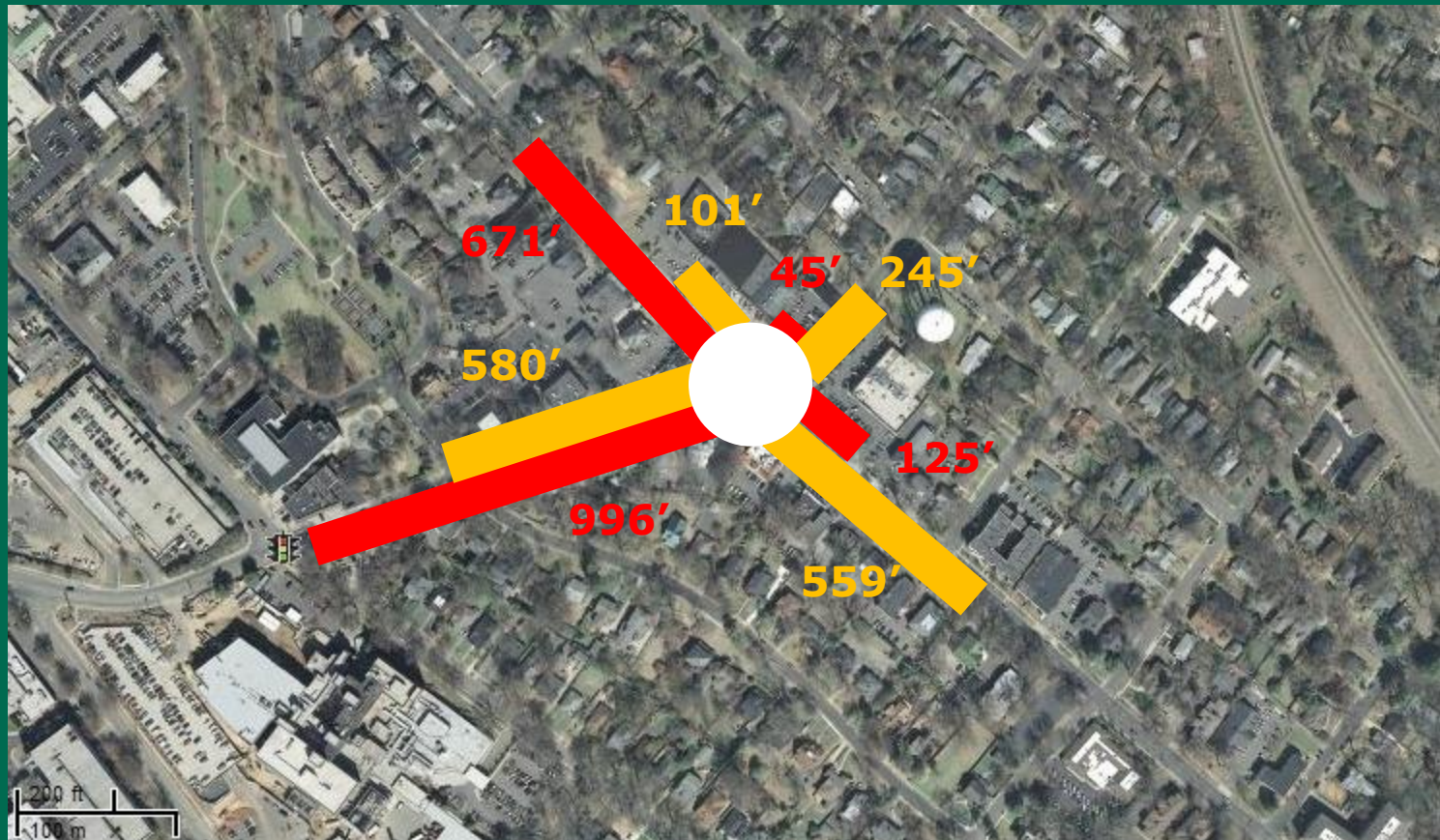
PM Average Queue Length



Baseline Scenario

Alternative A-1

PM Average Queue Length



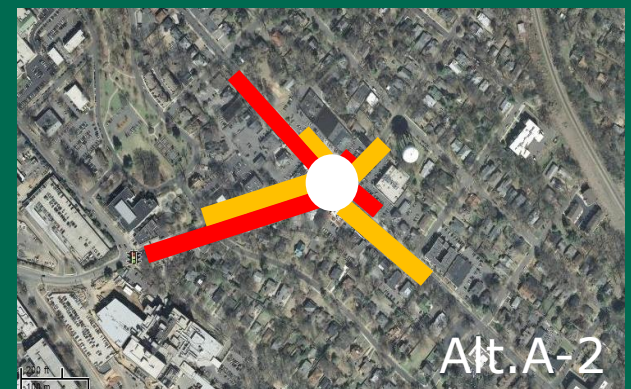
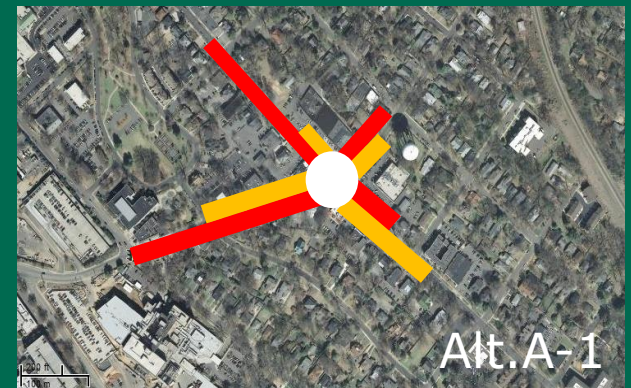
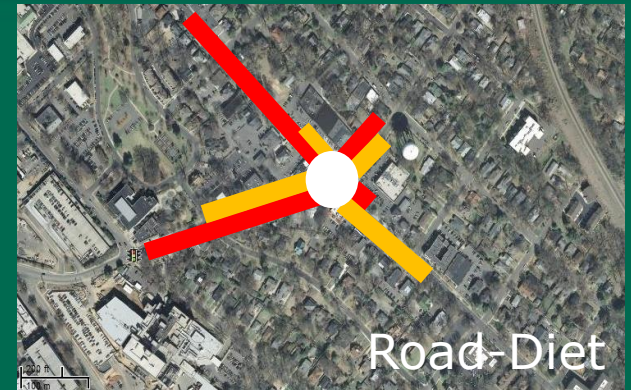
Baseline Scenario

Alternative A-2

Analysis Findings

“Road-Diet” Challenges

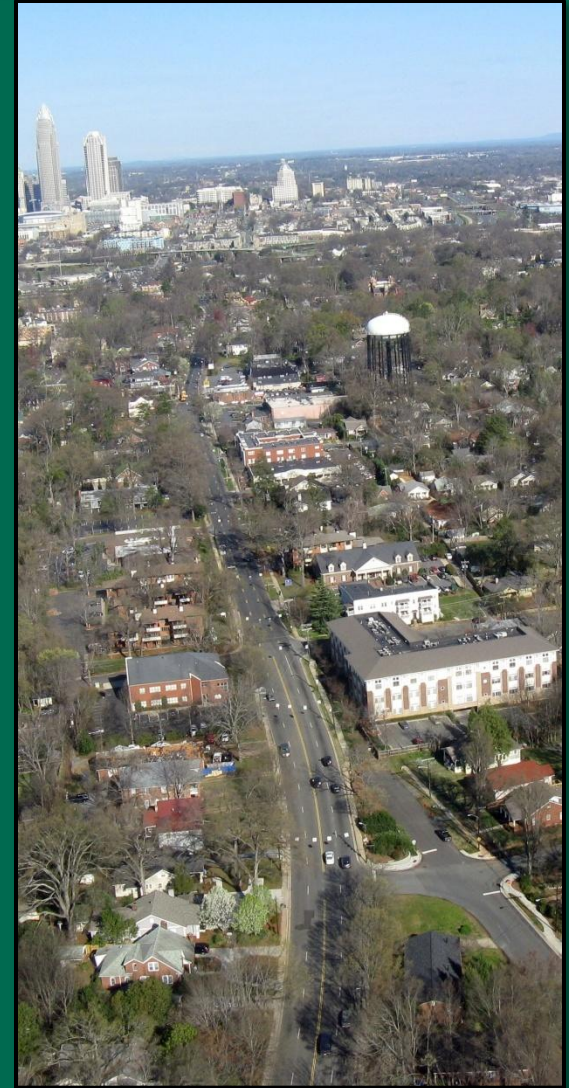
- Signal phasing at Pecan/Caswell
- Increased delay to Outbound 7th and Caswell PM commutes
- Significantly longer queues in peak periods



Transportation Recommendations

Draft Recommendations

- Intersection of 7th/Pecan/Caswell
- Additional crosswalks within corridor (without refuge islands)
- Hold E. 7th St. to existing curbs
- Implement PED Overlay



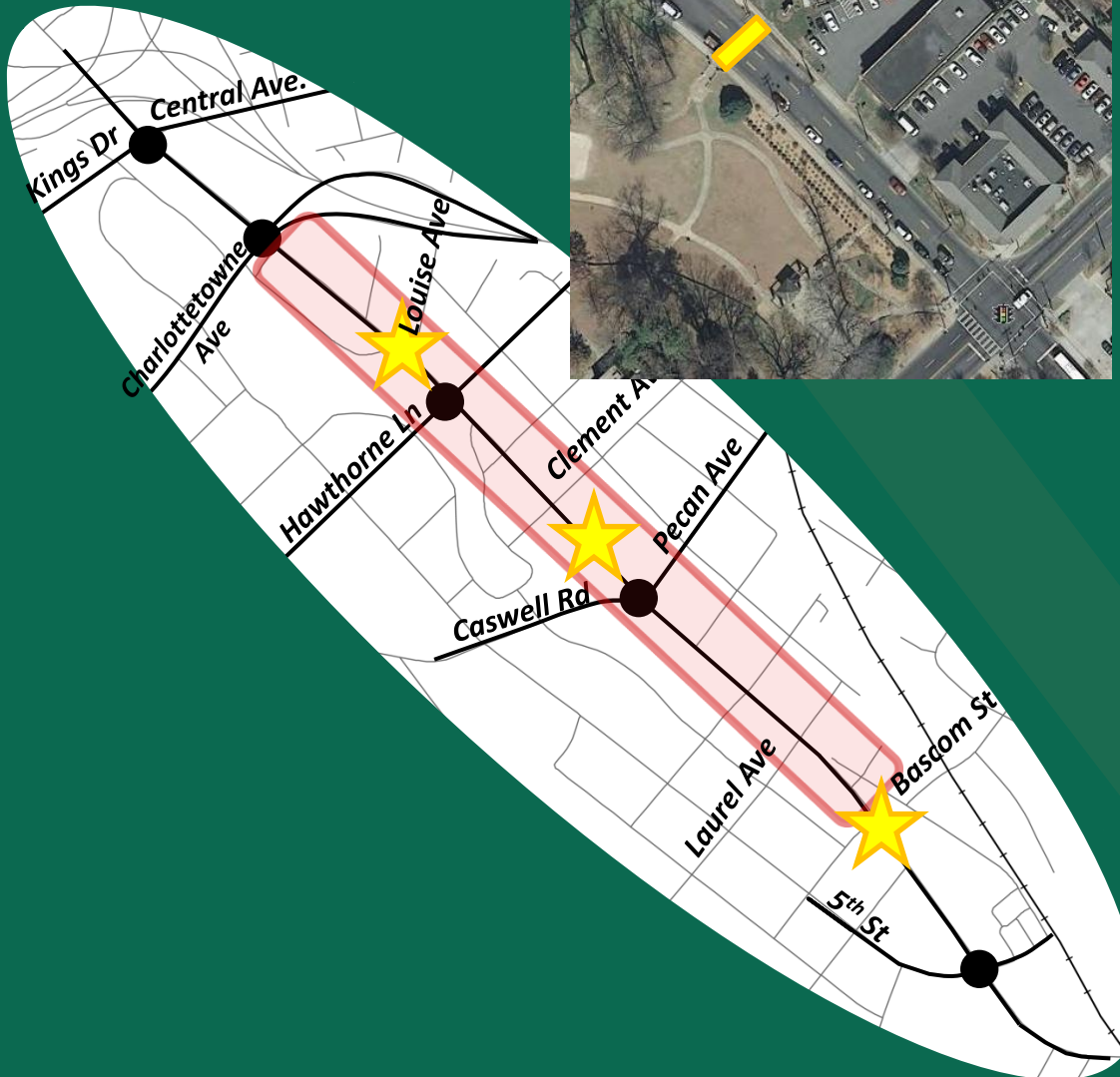
Intersection of 7th / Pecan / Caswell

**Add more timing to cross E. 7th at
Pecan/Caswell**

**Add “missing crosswalk” between
Philosopher Stone’s and Starbuck’s**



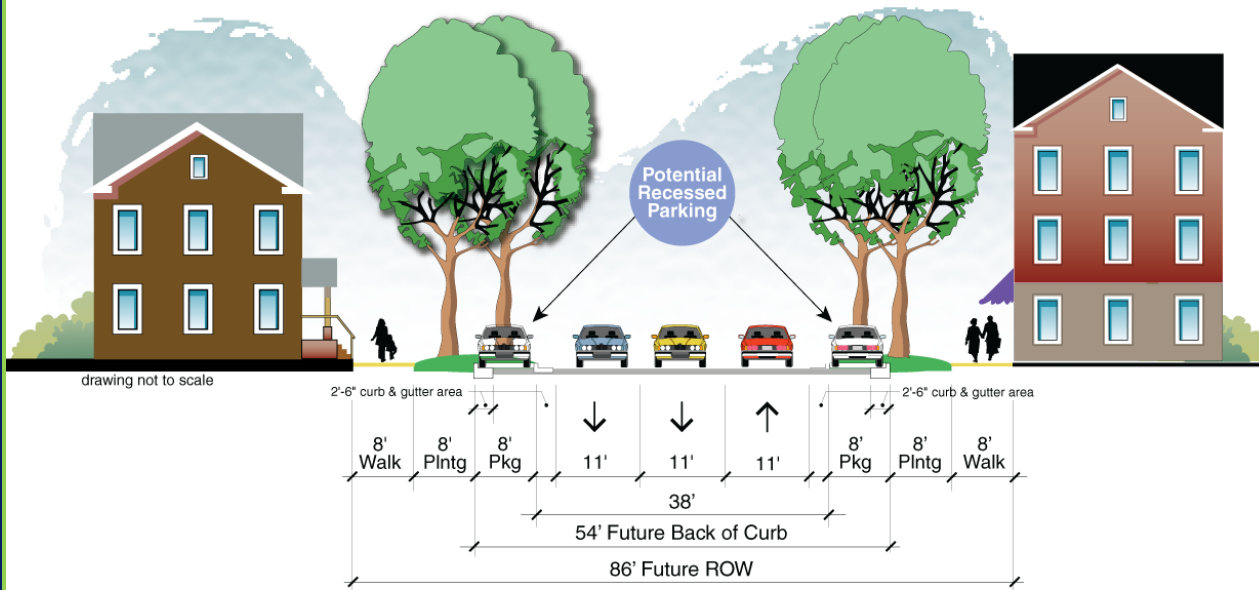
Additional Crossings



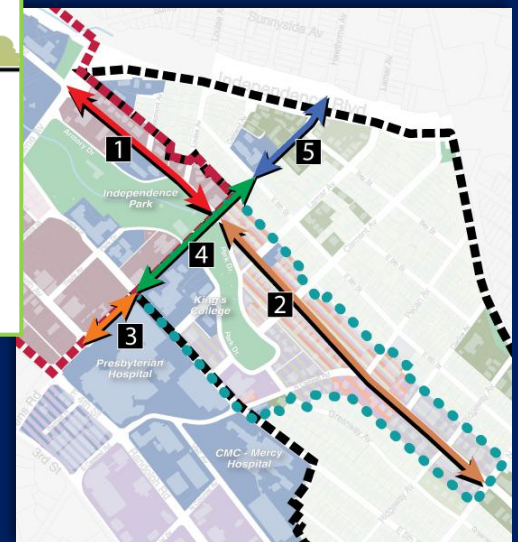


Draft Cross-Sections: 1 of 5

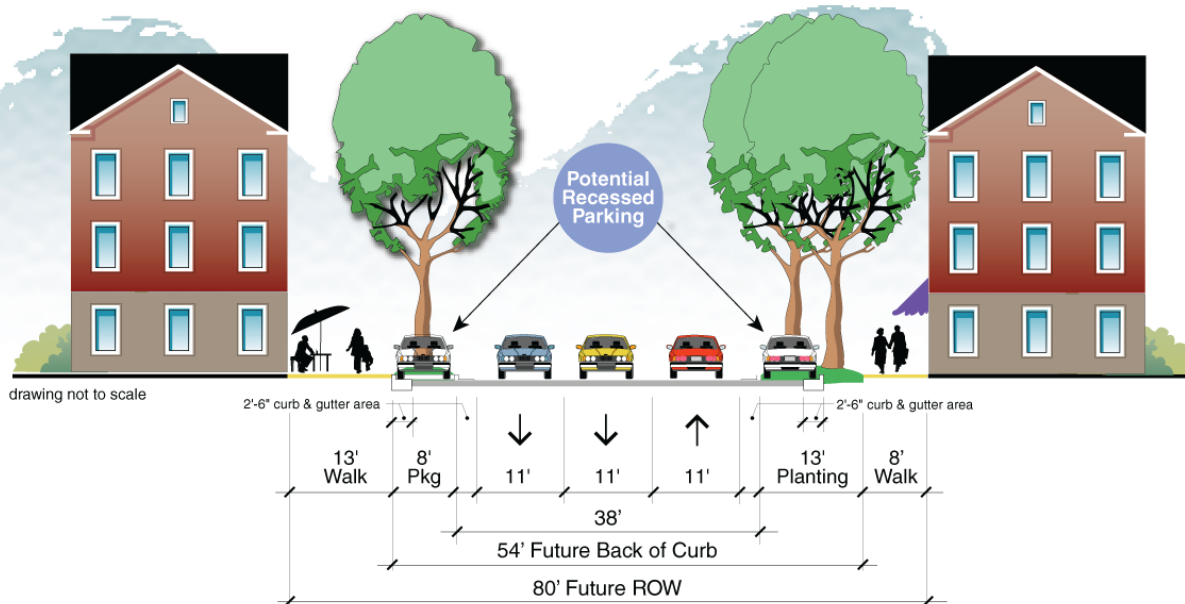
1 East Seventh Street (Charlottetowne Avenue to Hawthorne Lane)



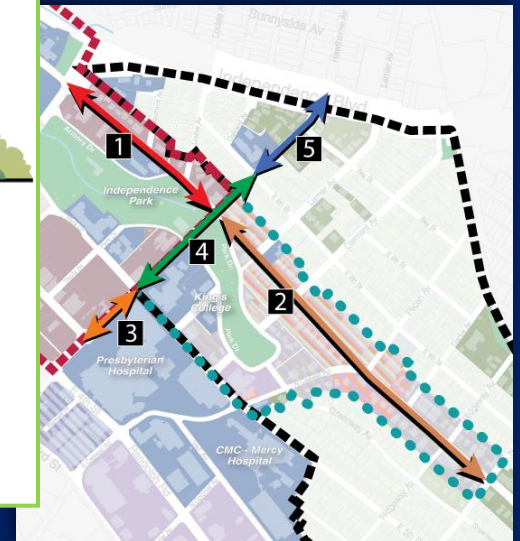
- Wider planting strips and sidewalks
- Recessed parking between mature trees



2 East Seventh Street (Hawthorne Lane to Laurel Avenue)



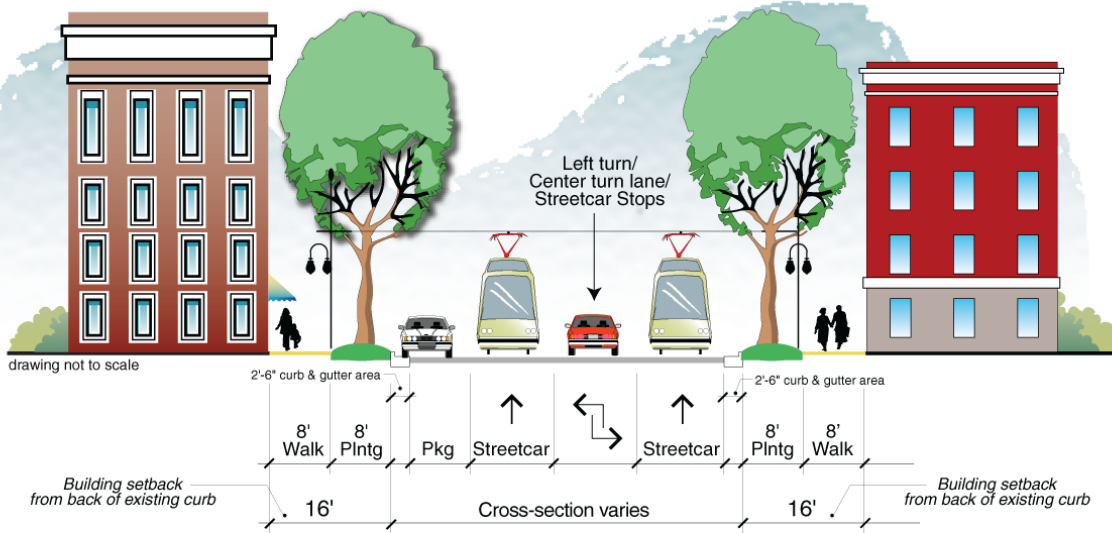
- Wider planting strips and sidewalks
- Recessed parking between mature trees





Draft Cross-Sections: 3 of 5

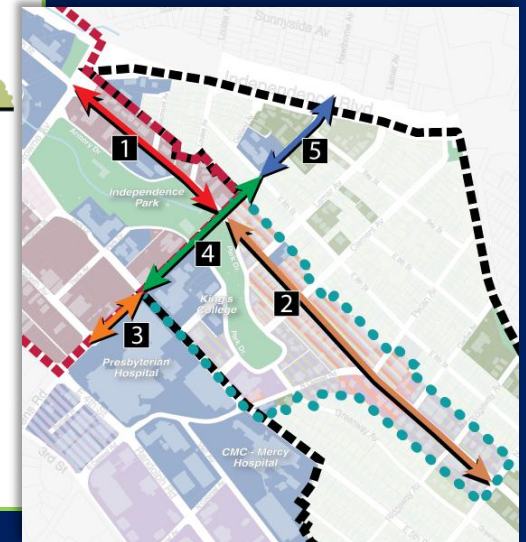
3 Hawthorne Lane (Elizabeth Avenue to Fifth Street)



NOTE: no Bike Lane

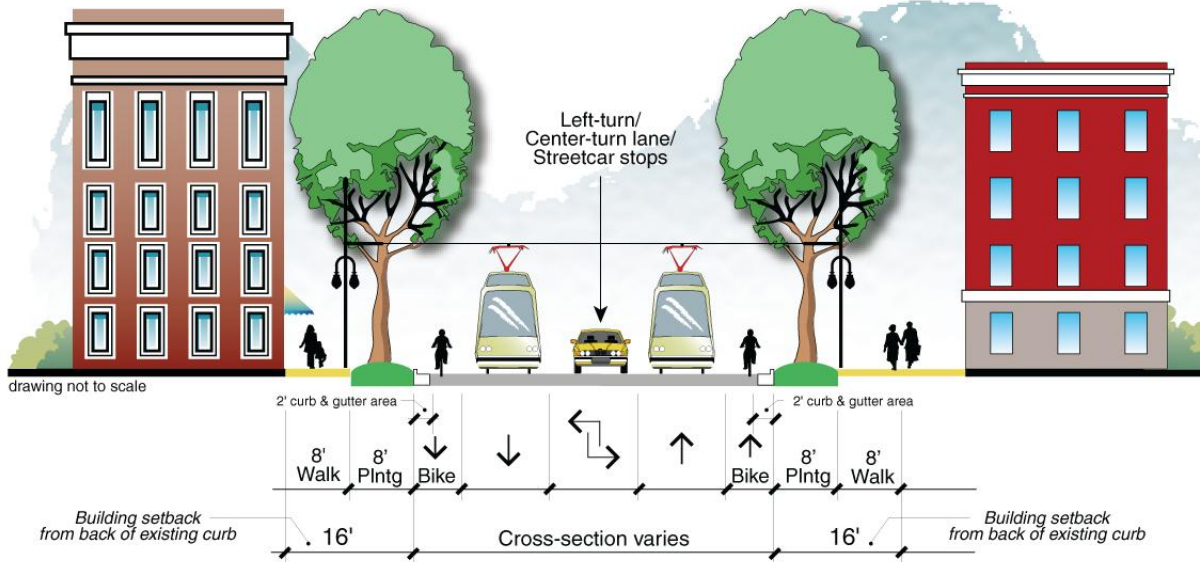
- * Pedestrian refuge islands should be located mid-block when additional width is available.
- * The proposed streetcar project may recommend street cross-sections from the existing curb to curb with varying dimensions. Proposed dimensions behind the curb remain the same.
- * The proposed streetcar will share a travel lane with other vehicles.

- Wider planting strips and sidewalks
- On-street parking via "road-diet"



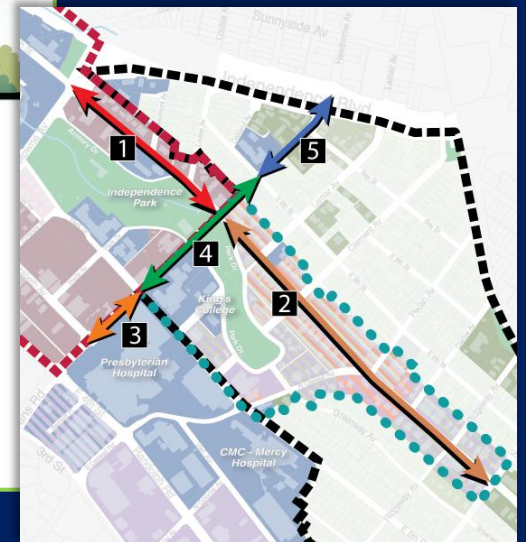
Draft Cross-Sections: 4 of 5

4 Hawthorne Lane (Fifth Street to Eight Street)



- * Pedestrian refuge islands should be located mid-block when additional width is available.
- * The proposed streetcar will share a travel lane with other vehicles.

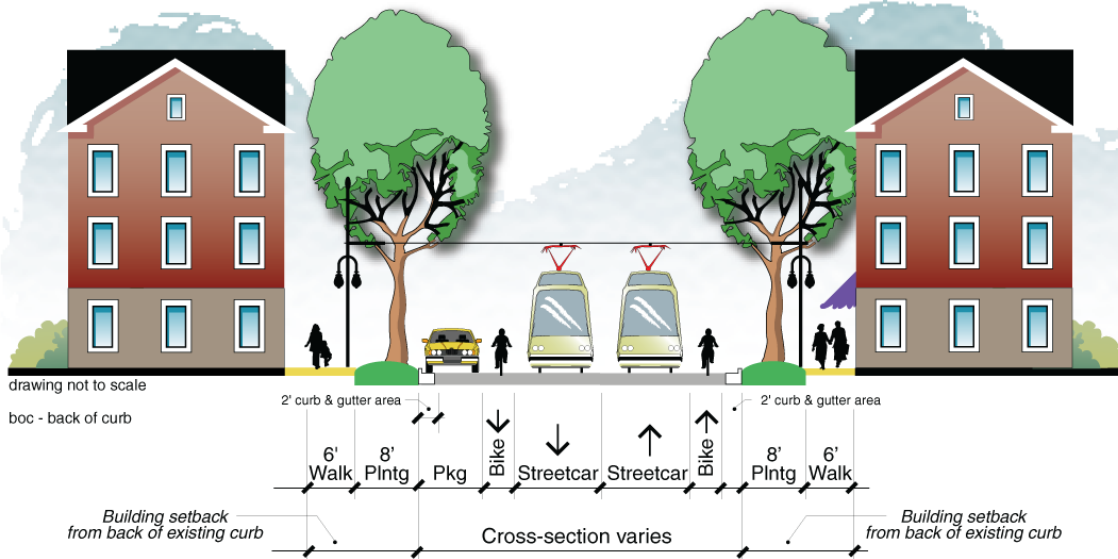
- Wider planting strips and sidewalks
- Bicycle lanes





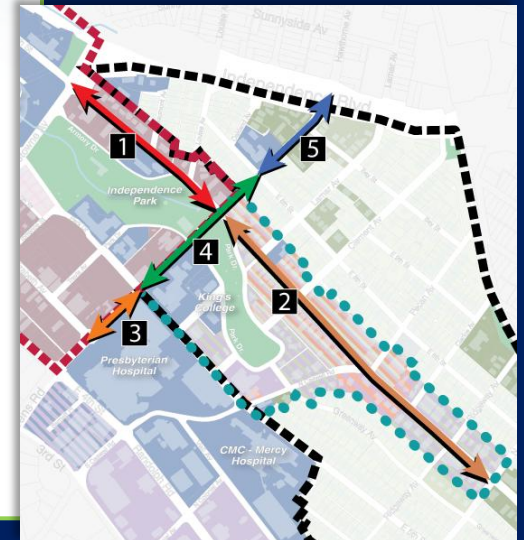
Draft Cross-Sections: 5 of 5

5 Hawthorne Lane (Eight Street to Independence Boulevard)



- * Pedestrian refuge islands should be located mid-block when additional width is available.
- * The proposed streetcar project may recommend street cross-sections from the existing curb to curb with varying dimensions. Proposed dimensions behind the curb remain the same.
- * The proposed streetcar will share a travel lane with other vehicles.

- Wider planting strips and sidewalks
- On-street parking via “road-diet”
- Bicycle lanes



Transportation Recommendations

Draft Recommendations

- Intersection of 7th/Pecan/Caswell
- Additional crosswalks within corridor (without refuge islands)
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- Implement PED Overlay

