

Braddock • King • Quaker Study

for the City of Alexandria, Virginia

Public Meeting



Vanasse Hangen Brustlin, Inc.



Wednesday, January 21, 2009

Purpose of Meeting



- Status of the Project
- Review of Concepts presented at the Second Public Meeting
- Present Conceptual Alternatives under detailed analysis
- Public Comments/Feedback

Study Schedule



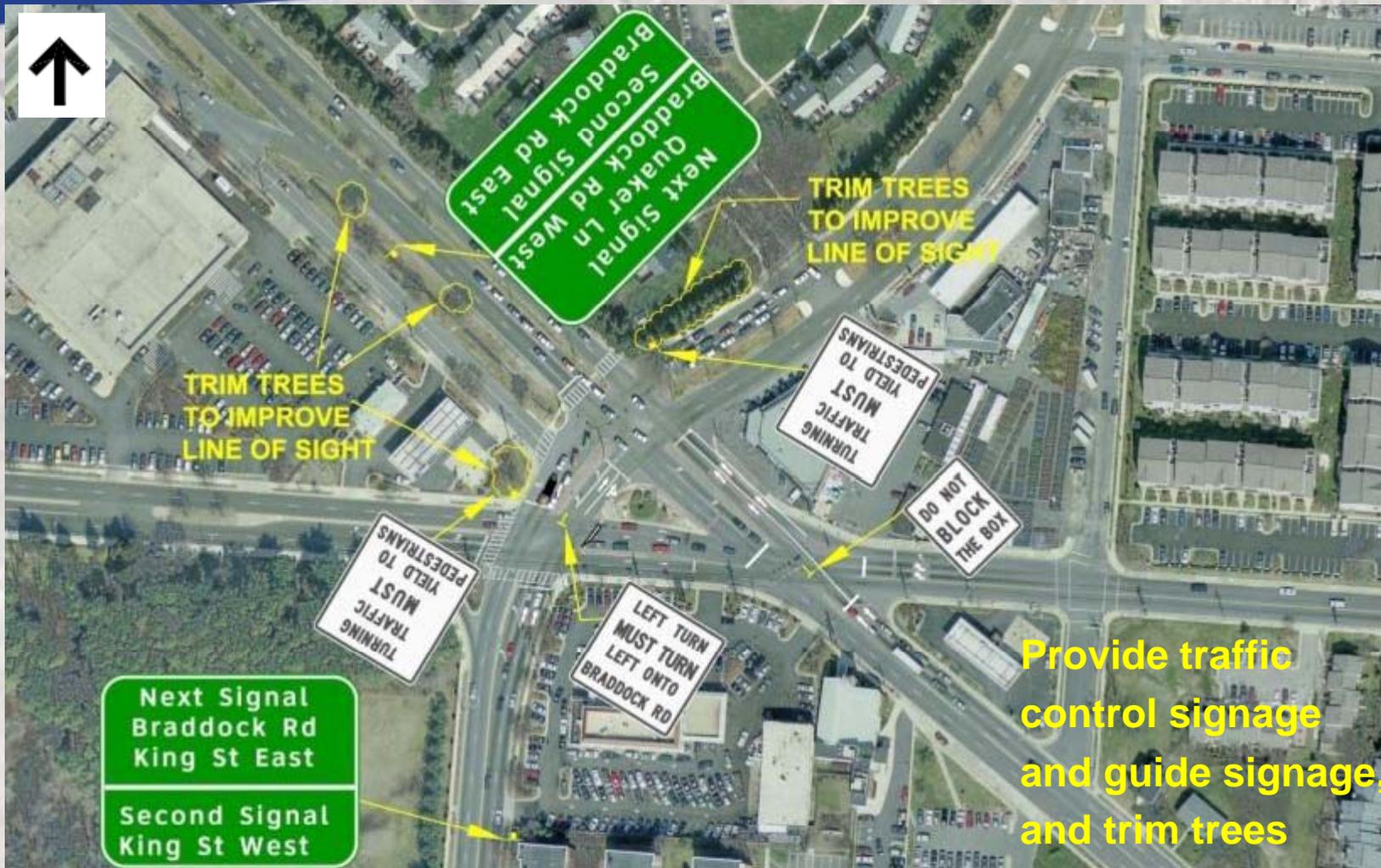
| | April | May | June | July | August | September | October | November | December | January |
|------------------------------|-------|-----|------|------|--------|-----------|---------|----------|----------|---------|
| Existing Conditions Analysis | | | | | | | | | | |
| Future Alternatives Testing | | | | | | | | | | |
| Conceptual Design | | | | | | | | | | |
| Documentation | | | | | | | | | | |
| Public Meetings | | | 1 | | | | 2 | | | 3 |

Where are we?

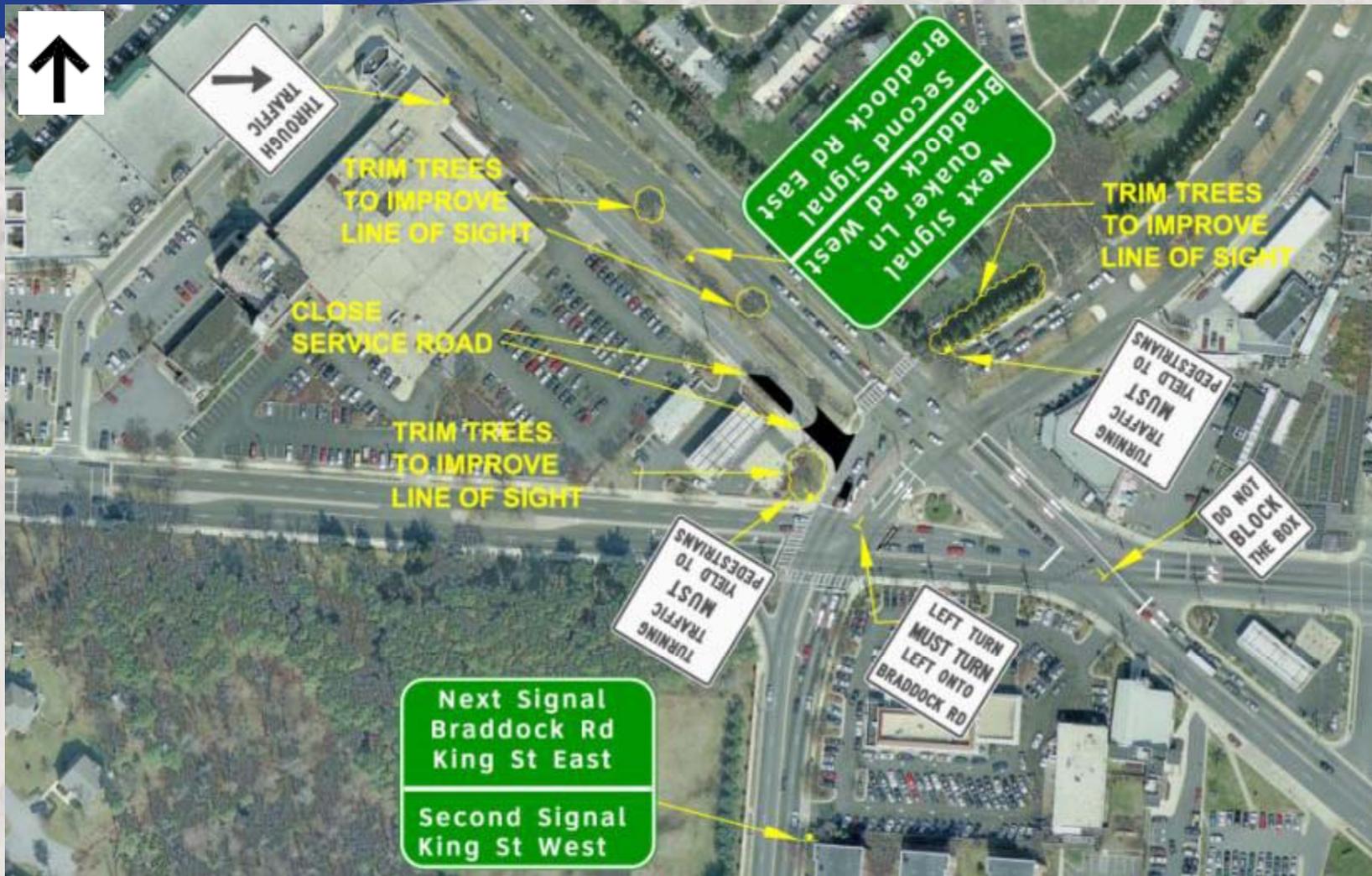


- Following Public Meeting #2, concepts were refined into conceptual alternatives
- Completed the detailed analysis on draft conceptual alternatives and developed planning level costs

Short Term Improvements (Service Rd Open)



Short Term Improvements (Service Rd Closed)



Short Term Improvements

- Improvements to Service Road at the intersection of King St at Dearing / Wakefield St
 - Relocate signage
 - Re-stripe roadway



Concept 2



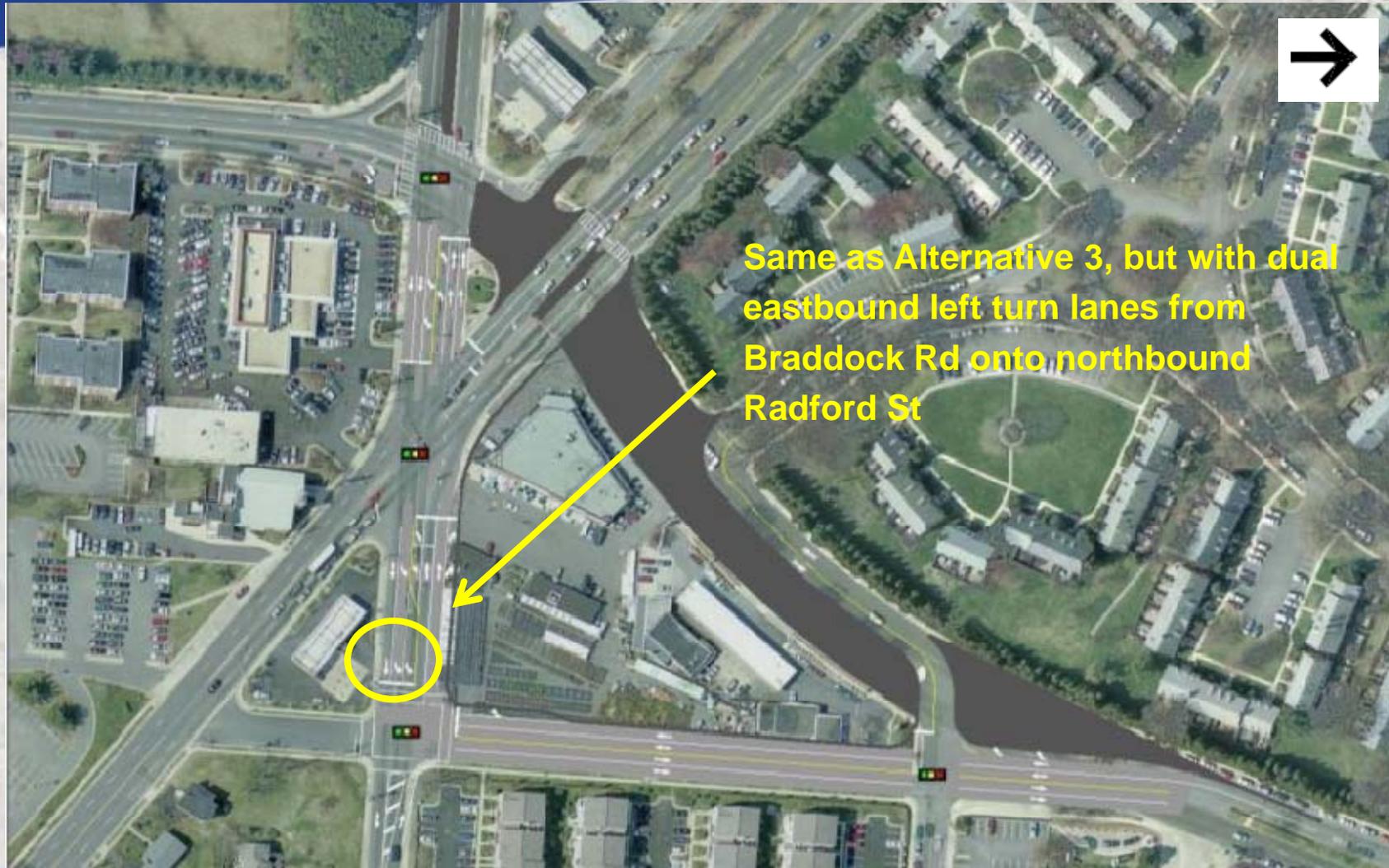
Remove Braddock Rd segment between Quaker Ln and King St

Concept 3



- Remove Quaker Ln segment north of Braddock Rd and divert the traffic onto a widened Radford St
- Additional signal required at Braddock Rd/Quaker Ln North (formerly Radford St)

Concept 3b



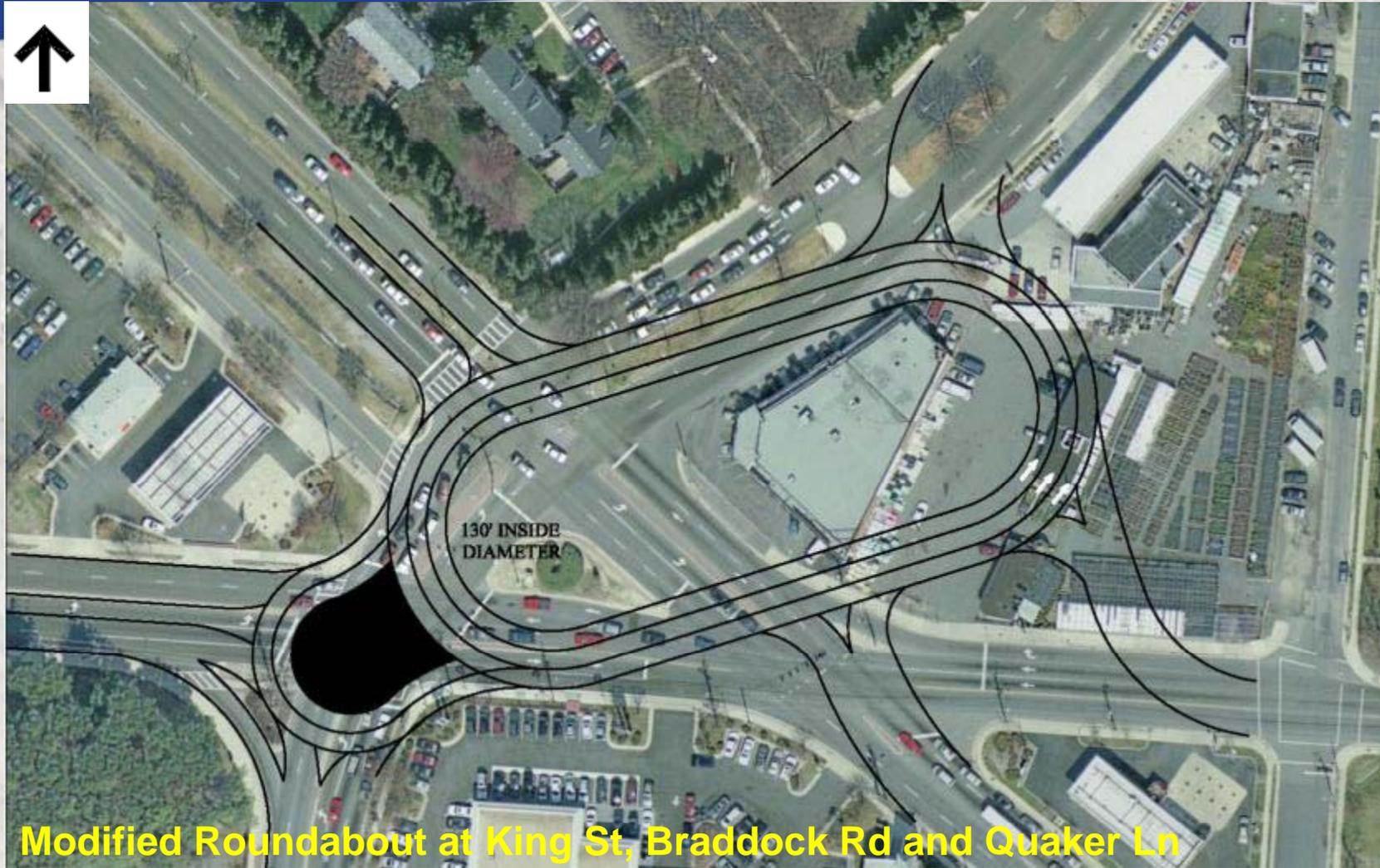
Same as Alternative 3, but with dual eastbound left turn lanes from Braddock Rd onto northbound Radford St

Concept 4



Quaker Ln (southbound) and Radford St (northbound) functioning as one way pair

Concept 5a



Modified Roundabout at King St, Braddock Rd and Quaker Ln

Concept 5b



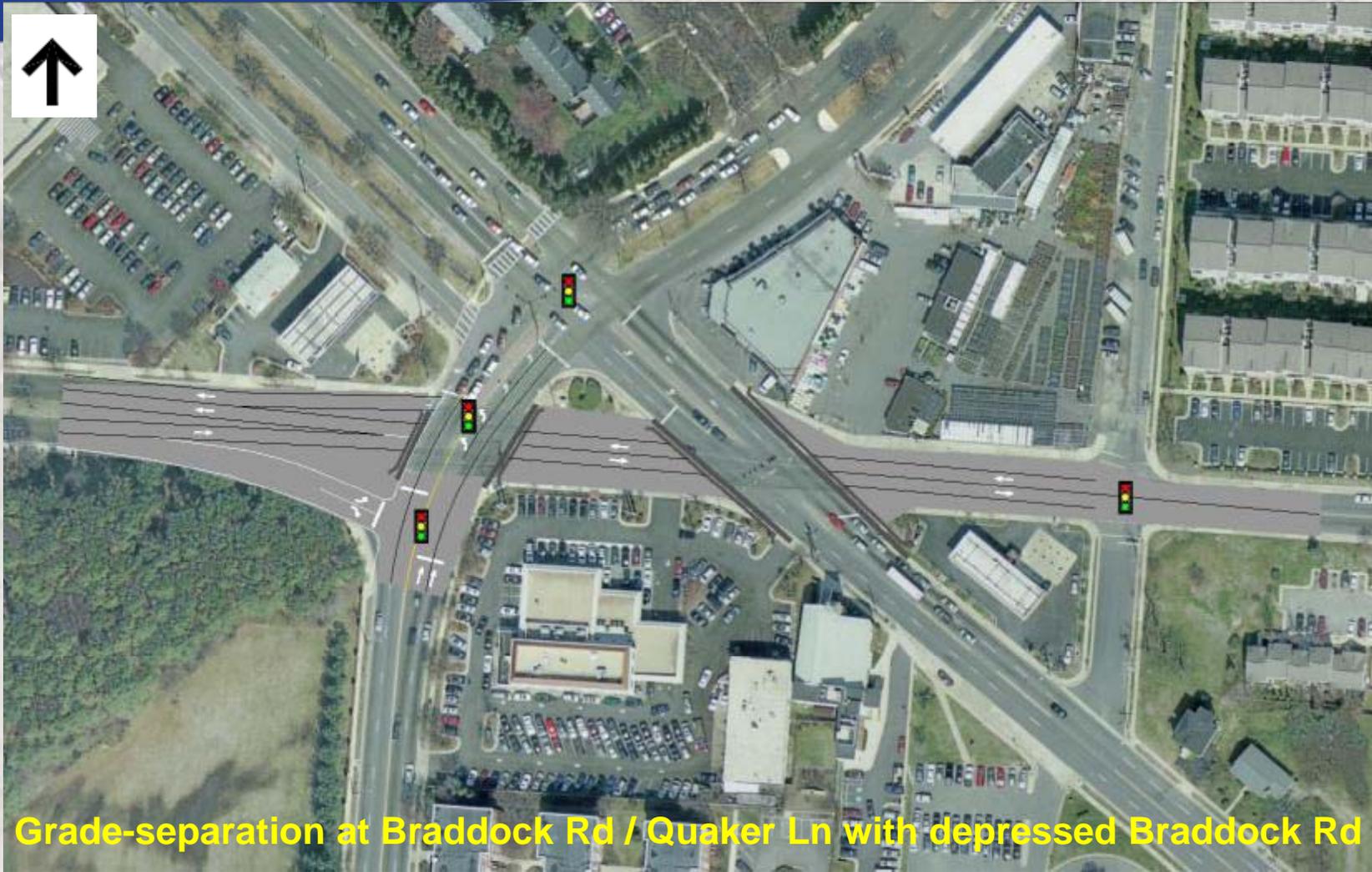
Modified Small Circular Roundabout at King St, Braddock Rd and Quaker Ln

Concept 5c



Modified Large Circular Roundabout at King St, Braddock Rd and Quaker Ln

Concept 6



Grade-separation at Braddock Rd / Quaker Ln with depressed Braddock Rd

Concept 7



Road-Diet: Before



Augusta Drive, Loudoun County



Road-Diet: Proposed



Augusta Drive, Loudoun County



Summary of Concepts



- Short term improvements address some needs
- Concept 2 results in some increased congestion
- Concept 3 has limited benefits to operations
- Concept 4 improves operations, but has impacts to residential neighborhood

Summary of Concepts



- Concept 5 is intrusive and does not benefit traffic and is confusing for Pedestrians
- Concept 6 improves operations significantly, but Braddock Road would feel like a freeway facility
- Concept 7 is too confusing

Summary of Concepts



- Independent of other concepts
 - Transit Center would improve transit operations, reduce through-trips on the service road, divert people from vehicle trips
 - Road-Diet on Quaker Lane could slow traffic down

Public Feedback/Comments



- Think about smaller improvements
 - Expand on Short Term Improvements and Concept 2 to include double left turn lanes
 - Keep improvements simple for pedestrians
- Would like to see service road closed at Bradlee Shopping Center and a new access to King Street

Public Feedback/Comments



- Concepts 4, 5, and 7 are too confusing for pedestrians & drivers, and too intrusive (right-of-way take extreme) and impacts adjacent land-uses
- Concept 6 is too much a freeway, could encourage speeding
 - safety on Braddock Road?

Detailed Analysis



- Conceptual Alternative 1 (with Short Term Improvements) and Conceptual Alternative 2 carried forth
- Traffic simulation tool CORSIM was used to evaluate Conceptual Alternatives 1 and 2, and the Road-Diet Concept
- Synchro software was used to evaluate changes at King Street / Taylor Street intersection to incorporate the Transit Center

Existing Conditions



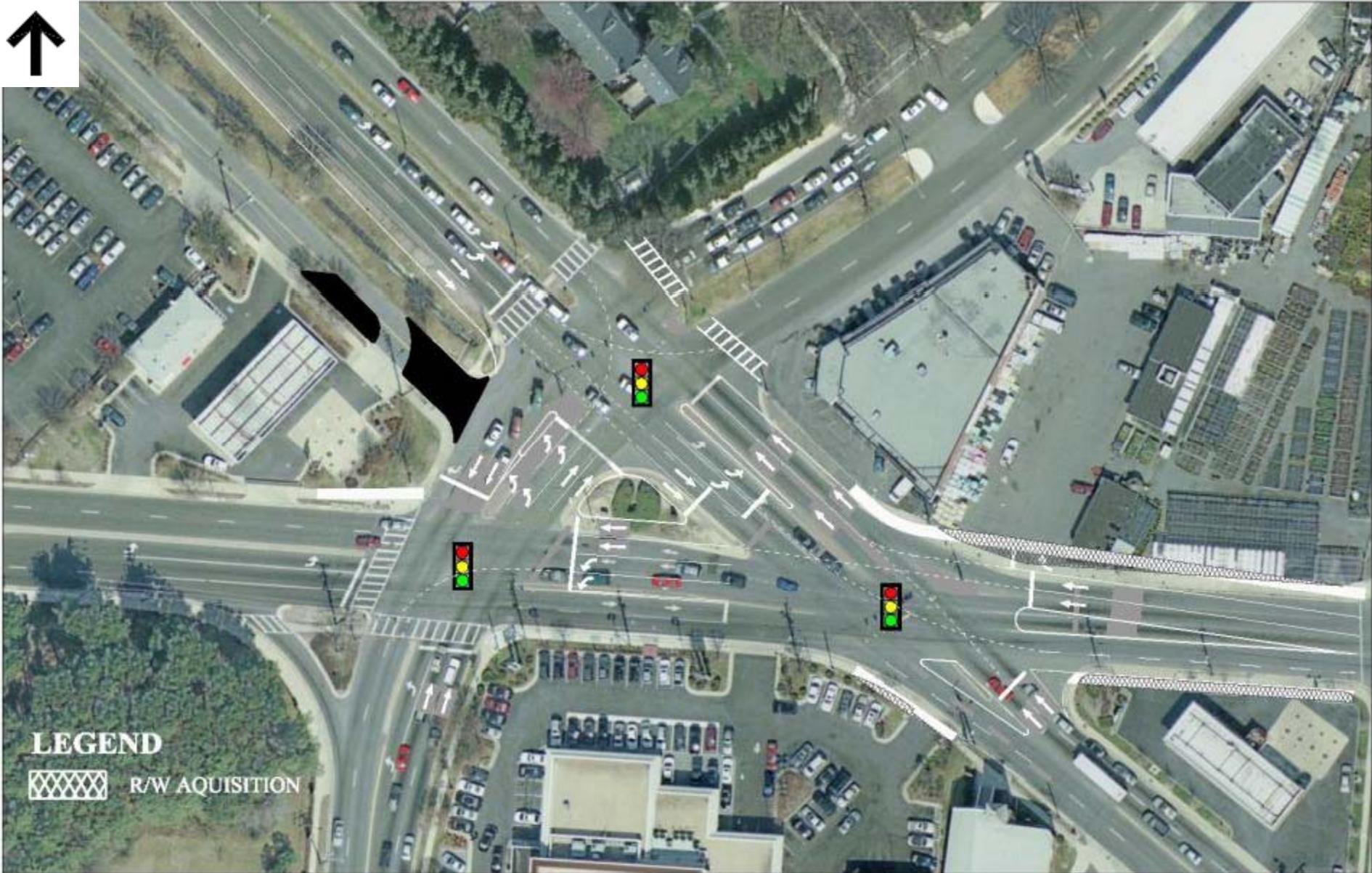
- Congestion occurs mostly during the weekday commuting periods for the peak direction of travel at the King Street / Quaker Lane / Braddock Road intersections, intersections would operate at or above capacity
- For peak Saturday conditions, intersection performance is below capacity at the King Street / Quaker Lane / Braddock Road intersections

2020 Baseline Conditions



- Congestion would occur during the weekday commuting periods and peak Saturday conditions for the peak direction of travel at the King Street / Quaker Lane / Braddock Road intersections, intersections would operate at or above capacity
- Congestion will worsen compared to Existing Conditions

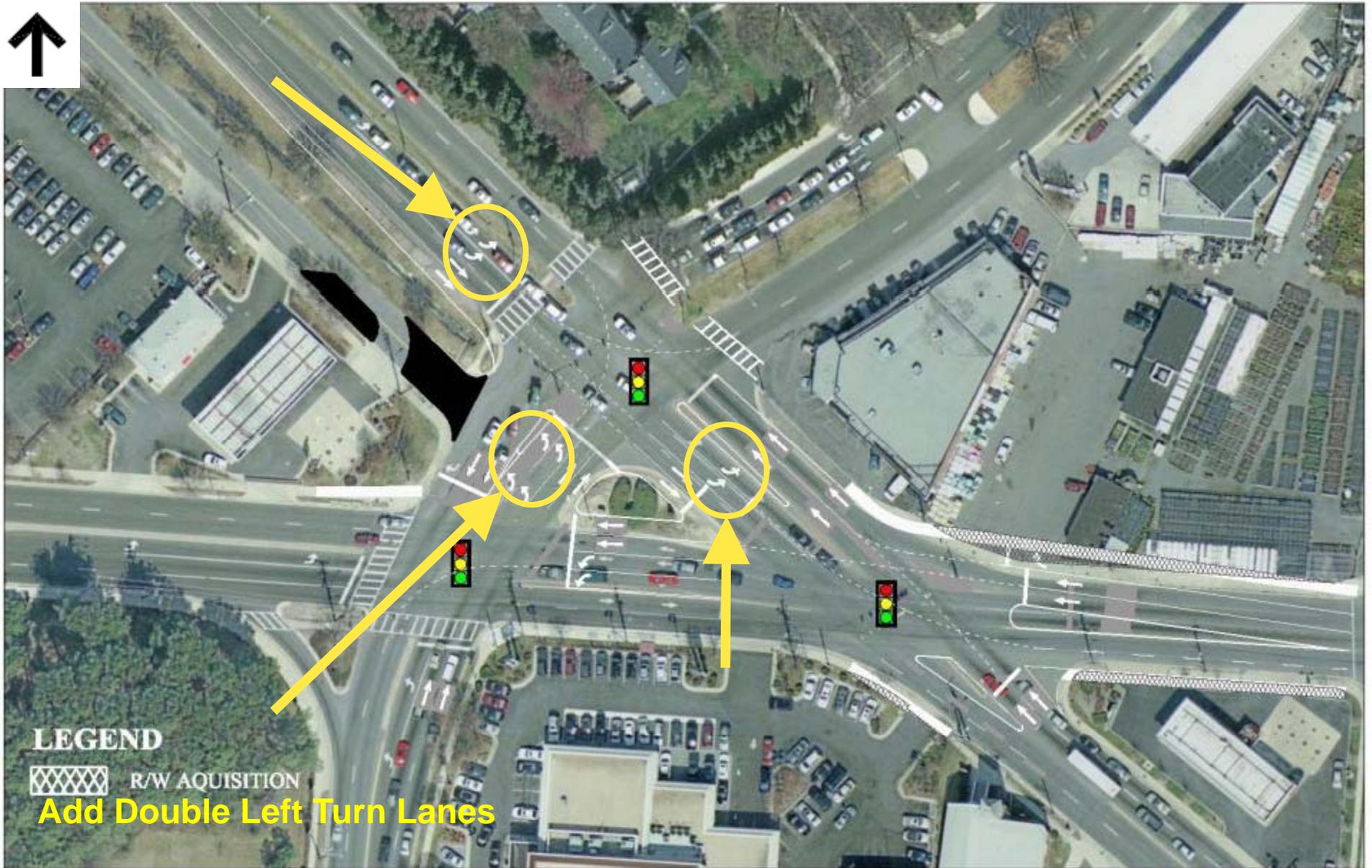
Conceptual Alternative 1



LEGEND

 R/W AQUISION

Conceptual Alternative 1



LEGEND

 R/W AQUISION

Add Double Left Turn Lanes

Conceptual Alternative I



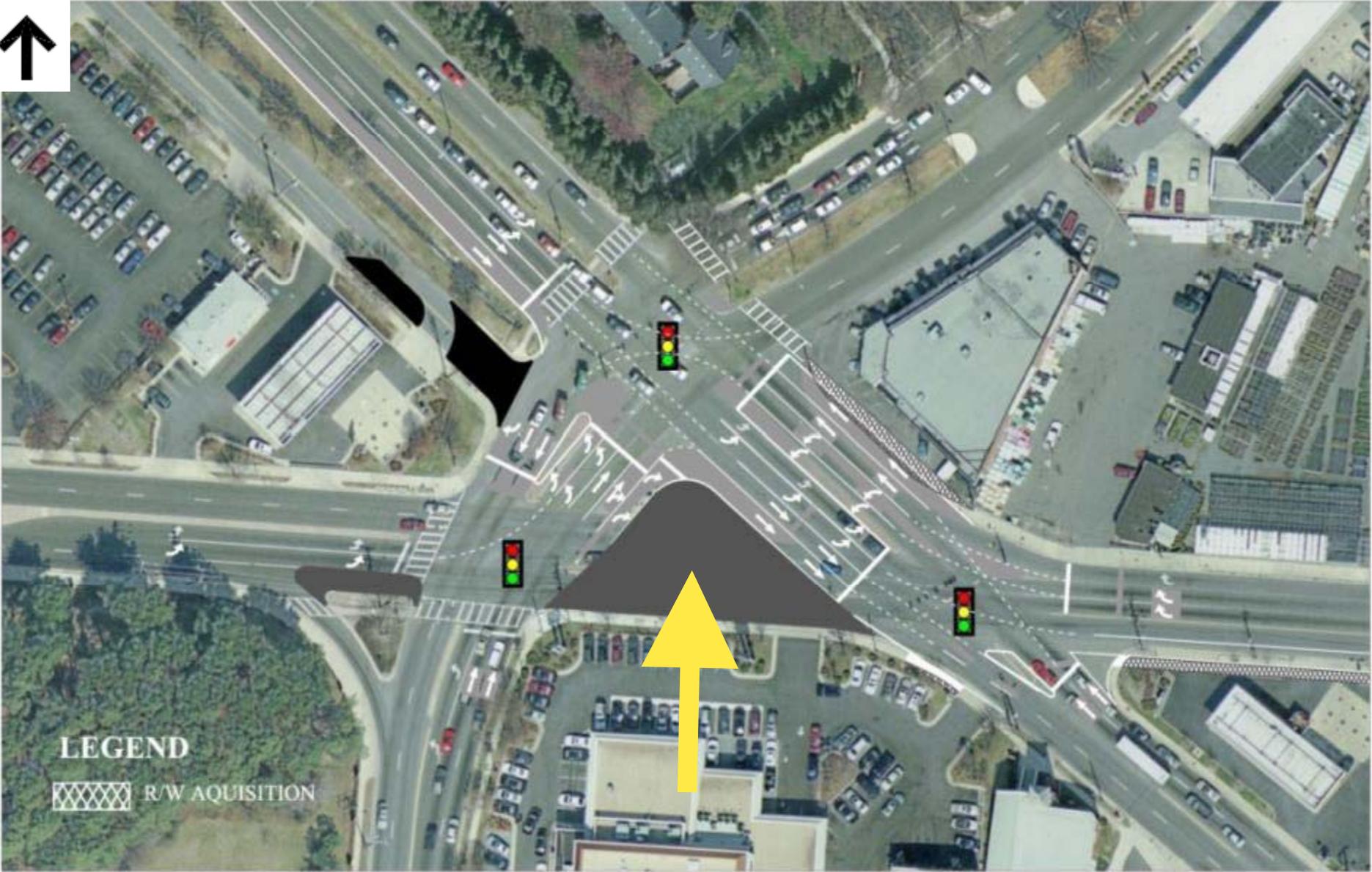
- Benefits

- Improves the overall operational performance most notably during weekday commuting periods when compared to 2020 Baseline Conditions
- Improves capacity for key turn movements
- Reconfiguration does not impede pedestrian mobility

- Disadvantages

- Some movements increase in delay
- Involves some ROW impacts and some private property acquisition

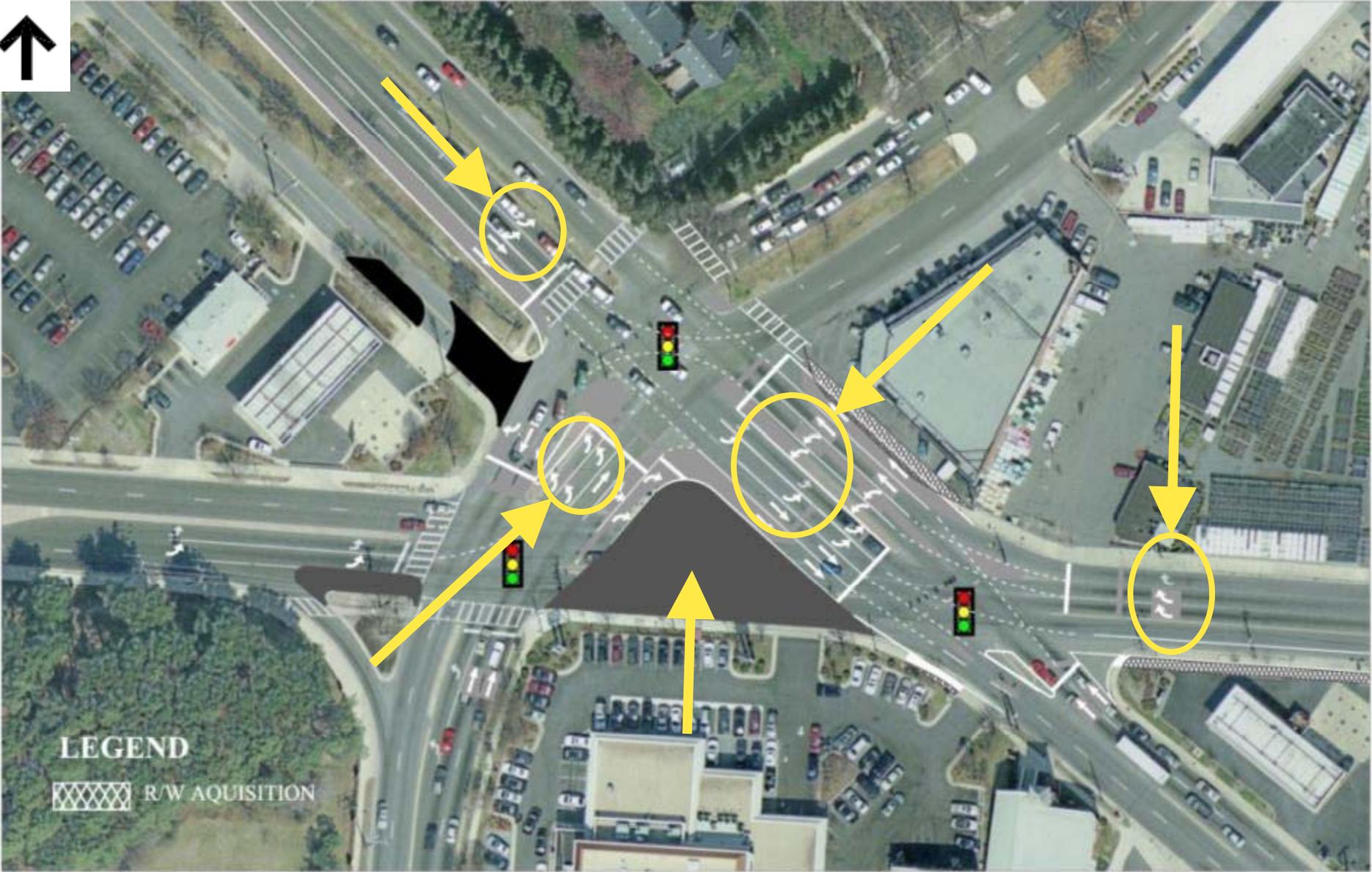
Conceptual Alternative 2



LEGEND

 R/W AQUISITION

Conceptual Alternative 2



LEGEND

 R/W AQUISION

Conceptual Alternative 2



- Benefits
 - Reconfiguration does not impede pedestrian mobility and safety
 - Minor improvements would reduce number of movements which could improve vehicular safety
- Disadvantages
 - Not anticipated to improve the overall operational performance compared to 2020 Baseline Conditions
 - Queue spillback would occur due to heavy diverted traffic volume associated with the removal of a segment of Braddock Road
 - Reduces accessibility to the business affected by the section of Braddock Road that is closed
 - Rerouting could increase driver confusion due to multiple turn movements over a short distance

Transit Center at Bradlee S.C.



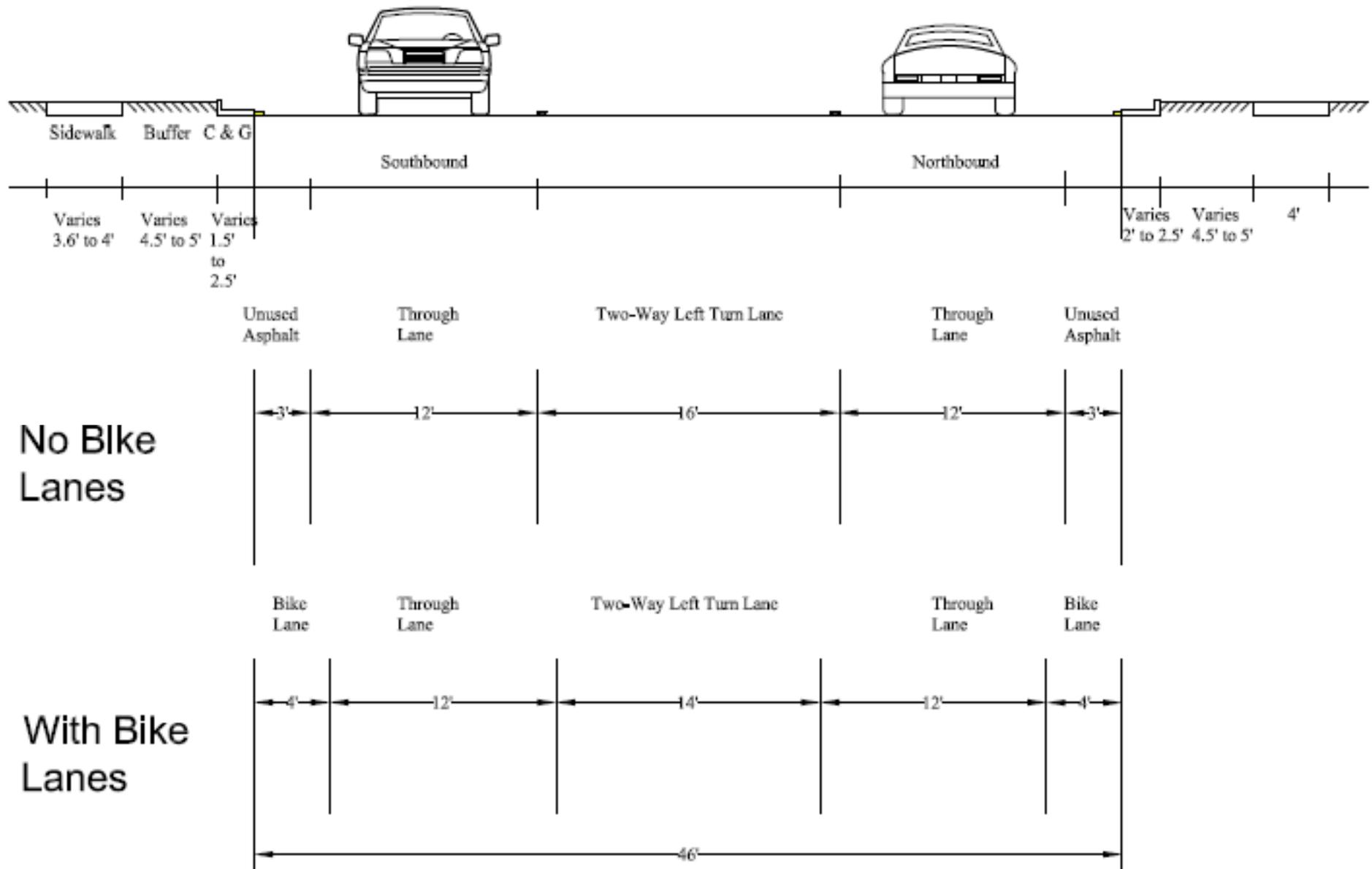
- Benefits

- Would improve operations and safety at this intersection by reducing the conflict points at the King Street / Taylor Street / Bradlee shopping center access
- Improves the interaction of bus traffic with vehicular traffic accessing and exiting the shopping center
- Enhance current transit transfer operations and improve existing transit service
- Eliminates cut-through traffic using the service road
- No ROW acquisition required and relatively easy to implement
- Reconfiguration improves pedestrian mobility, and improves safety

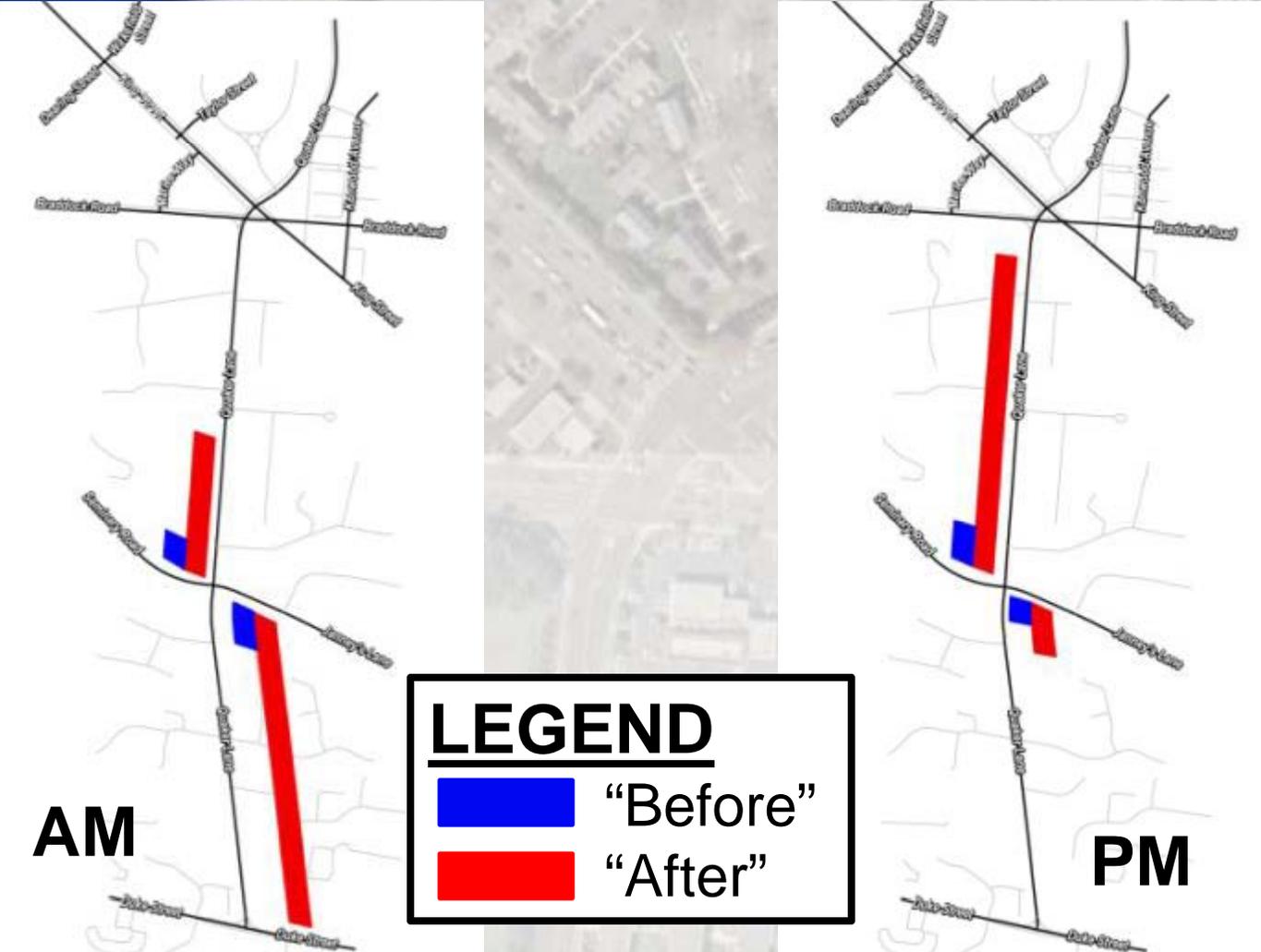
- Disadvantages

- All existing through traffic using the service road would be forced to use King Street

Road-Diet on Quaker Lane



Queue Lengths on Quaker Lane



Road-Diet on Quaker Lane



- Benefits

- Decrease travel speeds along Quaker Lane
- Improves safety for drivers, pedestrians, and cyclists

- Disadvantages

- Capacity along Quaker Lane would be reduced which would result in longer queues, and decreased throughput in the peak direction during weekday commuting periods
- Would likely divert traffic to other roadways including other local streets
- Access to unsignalized intersections and driveways would deteriorate

Short Term Improvements

- Improvements to Service Road at the intersection of King St at Dearing / Wakefield St
 - Relocate signage
 - Re-stripe roadway

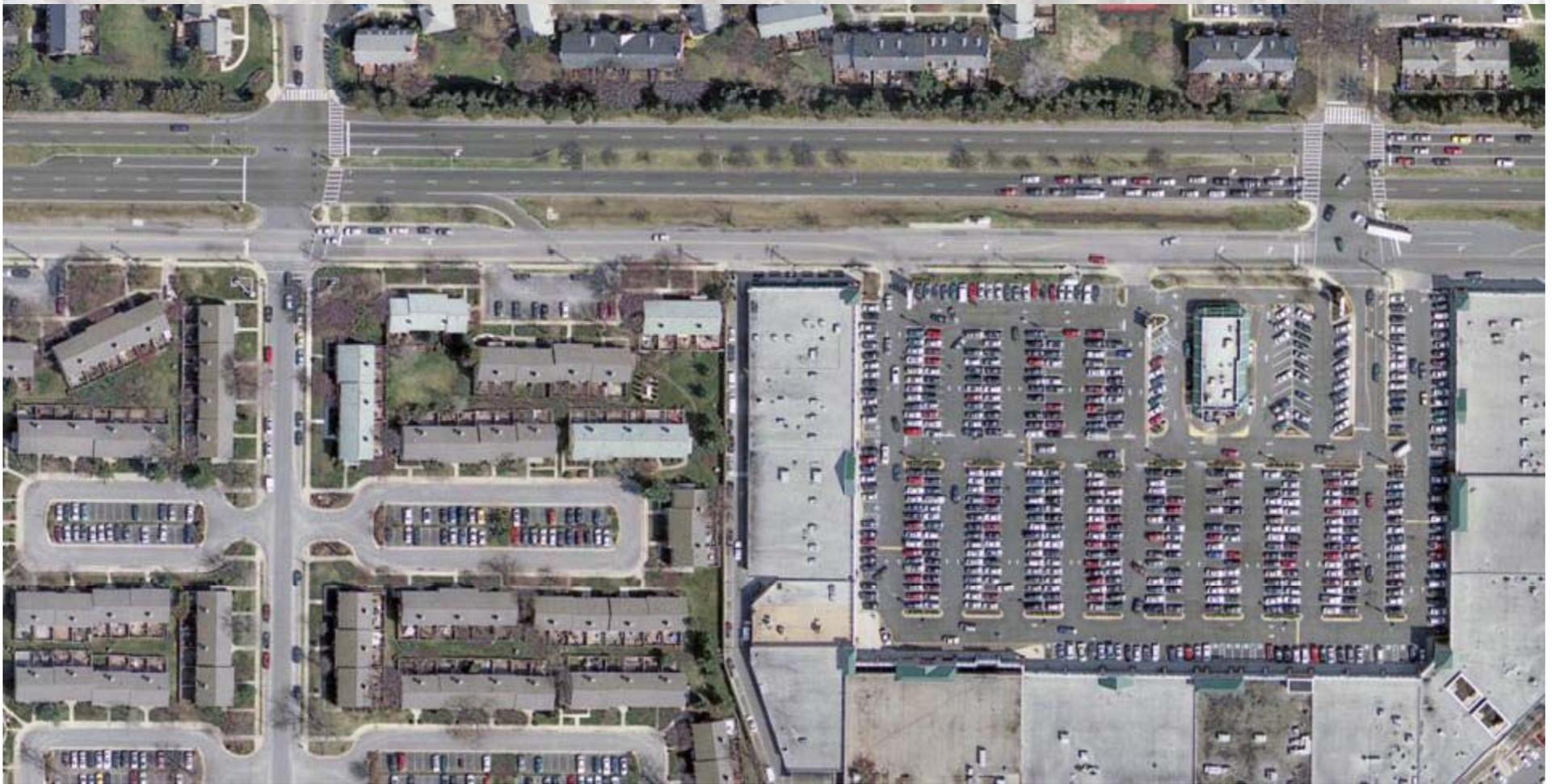


Long Term Improvements to Service Road



- Improvements tied to redevelopment of the shopping center
 - Close Service Road between Bradlee Shopping Center and Dearing Street
 - Add new signal on King Street as second access into the shopping center

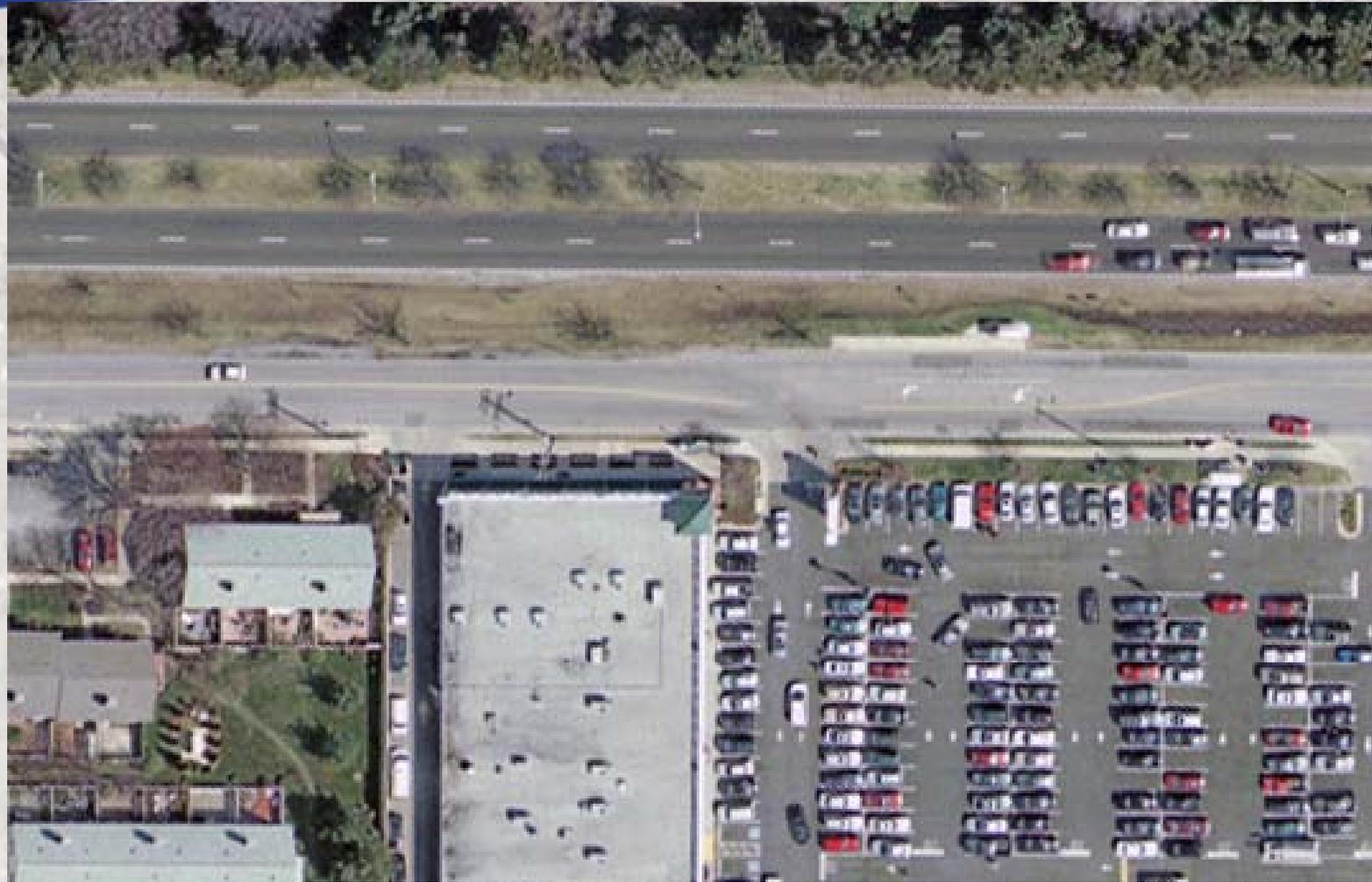
Long Term Improvements to Service Road



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Long Term Improvements to Service Road



Order of Magnitude Costs



| Costs | Estimated Cost (\$) |
|------------------------------------|----------------------------|
| Conceptual Alternative 1 | \$ 1.90 million |
| Conceptual Alternative 2 | \$ 1.95 million |
| Transit Center | \$ 500,000 |
| Road Diet along Quaker Lane | \$ 155,000 |
| Short Term Improvements | \$ 35,000 |

Note: Either Alternative 1 or 2 would be selected
Costing does not include utility relocation
Costs are order of magnitude only and are not detailed estimates

Summary of Findings



- Short-term Improvements and Transit Center option could be implemented with relative ease and with little impact:
 - would enhance the flow entering and exiting the Bradlee Shopping Center
 - improve wayfinding at King Street / Braddock Road / Quaker Lane intersections
 - improve Safety at King Street / Braddock Road / Quaker Lane intersections
 - improve transit services for corridor, which could reduce vehicular trips

Summary of Findings



- The Road-Diet concept could be implemented relatively quickly
 - trade-offs would be between speed versus queues and access to side streets
- Conceptual Alternative 1 provides greater operational improvements to the King Street / Braddock Road / Quaker Lane intersections compared to Conceptual Alternative 2

Next Steps



- Comments from Public
- Complete Report