STUDY GOALS

- Improve the intersection operations for Roswell Road at Abernathy Road
- Explore grade separation alternatives to improve traffic flow
- Determine traffic and right-of-way improvement constraints
- Provide a concept plan for recommended alternative on aerial photography
STUDY METHODOLOGY

- Traffic Counts from City of Sandy Springs
- Existing Year – Year 2015
- SYNCHRO analysis for existing intersection operations
- Future No-build – Year 2035
- Growth Factor of 1.0% per year
- Future Build – Year 2035
ABERNATHY ROAD AT ROSWELL ROAD
(EXISTING LAYOUT AM PEAK HOUR)
ABERNATHY ROAD AT ROSWELL ROAD
(EXISTING LAYOUT, AM PEAK HOUR)
ABERNATHY ROAD AT ROSWELL ROAD
(EXISTING LAYOUT, PM PEAK HOUR)
ABERNATHY ROAD AT ROSWELL ROAD
(EXISTING LAYOUT, PM PEAK HOUR)
ABERNATHY ROAD AT ROSWELL ROAD
(2035 AM PEAK HOUR)
ABERNATHY ROAD AT ROSWELL ROAD
(2035 PM PEAK HOUR)
OPTION 1:
ABERNATHY RD. OVER ROSWELL RD.
2035 AM (PM) PEAK HOURS
OPTION 2:
ROSWELL RD. OVER ABERNATHY RD.
AM (PM) PEAK HOURS
OPTION 1

(ABERNATHY OVER ROSWELL) IS PREFERRED.
CONCEPT ALTERNATIVES
CONCEPT 1: Reversible Two-Lane Bridge.
2035 AM SYNCHRO ANALYSIS
(REVERSIBLE BRIDGE)
2035 PM SYNCHRO ANALYSIS
(REVERSIBLE BRIDGE)
CONCEPT 2: TWO-LANE BRIDGE

2025veh. (AM PEAK HOUR)
2025 VEHICLES TOWARD SINGLE-LANE BRIDGE
2035 AM SYNCHRO ANALYSIS (2-LANE BRIDGE)
CONCEPT 3: 4-LANE BRIDGE
2035 AM SYNCHRO ANALYSIS (4-LANE BRIDGE)
4-LANE BRIDGE SIMULATION (AM)
4-LANE BRIDGE SIMULATION (PM)
# RESULTS COMPARISON

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th></th>
<th>No-Build</th>
<th></th>
<th>Reversible Bridge</th>
<th></th>
<th>Two-Lane Bridge</th>
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<th>Four-Lane Bridge</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>AM</td>
<td>PM</td>
<td>AM</td>
<td>PM</td>
<td>AM</td>
<td>PM</td>
<td>AM</td>
<td>PM</td>
<td>AM</td>
</tr>
<tr>
<td>LOS</td>
<td>E</td>
<td>E</td>
<td>F</td>
<td>F</td>
<td>C</td>
<td>E</td>
<td>B</td>
<td>D</td>
<td>B</td>
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<tr>
<td>DELAY (s)</td>
<td>72.8</td>
<td>74.7</td>
<td>133</td>
<td>125.6</td>
<td>34.8</td>
<td>63.6</td>
<td>18.5</td>
<td>44.7</td>
<td>17.7</td>
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<tr>
<td>NOTES</td>
<td>Both intersections are failing at a LOS close to F (80.0).</td>
<td>PM has delay of 63.6 seconds, vs. 44.7 of other bridge alternatives.</td>
<td>Intersection of Abernathy at Wright Rd. has a LOS F (102.1) in the AM because of the single lane bridge.</td>
<td>Some backups on WB right turn lane in the PM.</td>
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COST COMPARISON

- 4-lane bridge - Abernathy over Roswell Road - $49.5M
  - PE - $2.5M
  - ROW - $20M
  - Construction, Utilities, & CEI - $27M

- 2-lane bridge - Abernathy over Roswell Road - $35.5M
  - PE - $1.5M
  - ROW - $15M
  - Construction, Utilities, & CEI - $19M

Note: The above cost estimates are conceptual planning level estimates
CONCLUSIONS

✓ Distribution of AM and PM turning movements at the intersection is conducive to grade separate Abernathy Road instead of Roswell Road.

✓ Directional split of traffic flow in the AM and PM hint that a reversible grade-separated lane may be an option. However, upon studying this alternative, the intersection operational results were not considered acceptable.

✓ A two-lane bridge (one lane in each direction) does not have sufficient capacity for 2,025 vehicles that would travel in the eastbound direction in the AM peak hour.

✓ Preferred Alternative - A four-lane bridge (two lanes in each direction) would offer the best intersection improvement.
OTHER POTENTIAL OPTIONS

- Tunnel (Abernathy under Roswell Road)
- Roundabout
- Roundabout with Tunnel

Note: The above options need further study and are more likely to be expensive
QUESTIONS??