Nothing Compares
NORTH CAROLINA

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FS-1205A I-40 Managed Lanes From I-85 to Wade Avenue

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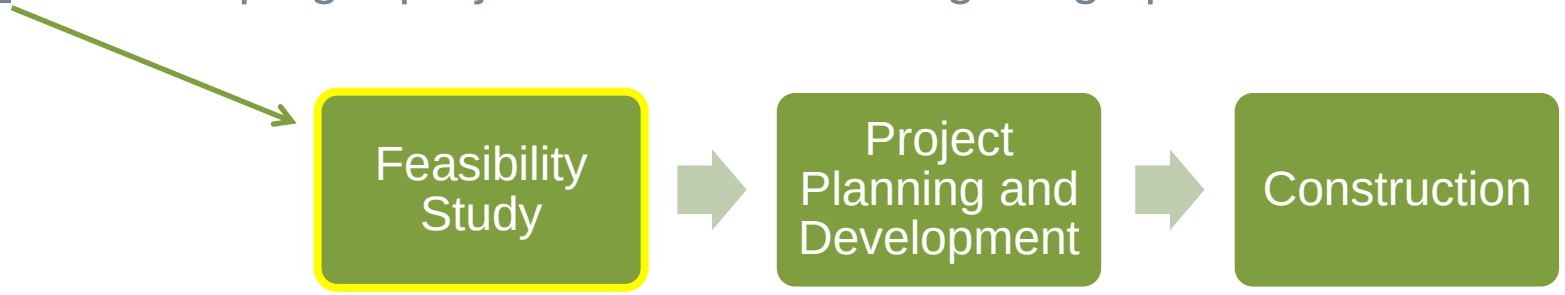
What is a Feasibility Study?

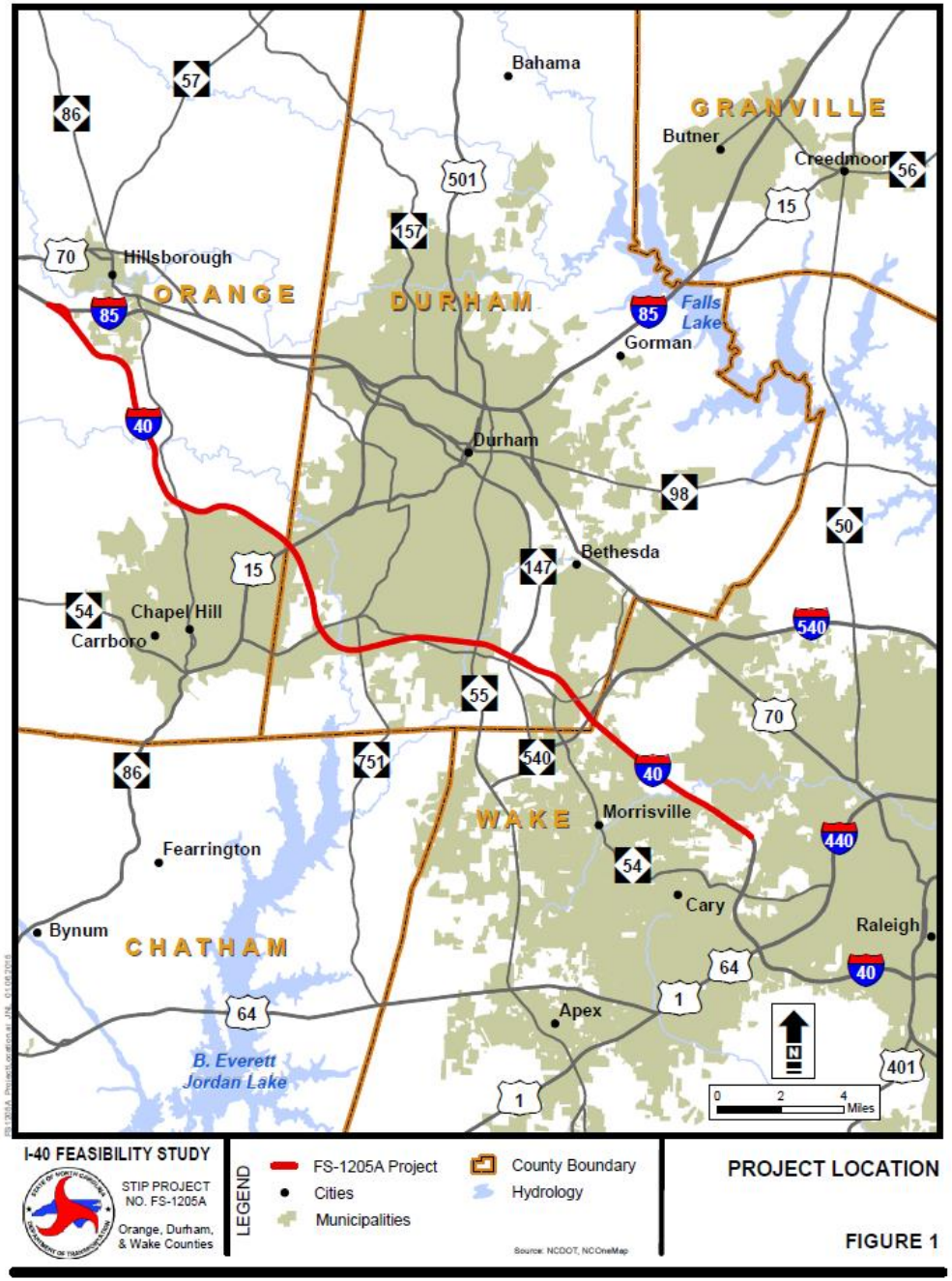
- It is an assessment of a proposed plan that answers questions such as:
  - Is the project practical? Can it be done?
  - What are the principal alternatives?
  - What are the estimated costs and benefits?
  - What are the major issues and impacts?
- For the MPO and NCDOT, it provides information to start the conversations around a project
- It is the first step in developing a project that is in the long-range plan



What are Managed Lanes?

- A **managed lane** is a type of highway lane that is operated with a management scheme, such as lane use restrictions or variable tolling, to optimize traffic flow, vehicle throughput, or both.
- They are separate from general purpose lanes and can be actively managed to respond to changing traffic conditions.
- Examples include:
  - High-occupancy vehicle lanes
  - High-occupancy toll lanes (has both HOV and toll management)
  - Express toll lanes
  - Reversible lanes, and
  - Bus lanes.

Project Limits / Summary



- Study evaluated managed lanes on I-40 from I-85 to Wade Avenue (approximately 30 miles)
- Considered both one and two managed lanes per direction on I-40
- Evaluated a preliminary set of ingress/egress points
- Assumed Durham-Orange Light Rail Transit tracks, maintenance facility and stations
- Total costs of one managed lane per direction is approximately $1.05 billion while the total costs of 2 managed lanes is anticipated to be $1.1 billion

2040 I-40 Mainline AADT Volume

Green – Below Capacity, Yellow – Approaching Capacity, Orange – At Capacity, Red – Over Capacity

West

East

Segment	No-Build[1]
I-85 to Old NC 86	83,400
Old NC 86 to New Hope Church Rd	95,600
New Hope Church Rd to NC 86	100,100
NC 86 to US 15-501	111,900
US 15-501 to NC 54	131,800
NC 54 to NC 751	175,500
NC 751 to Fayetteville Rd	170,300
Fayetteville Rd to NC 55	187,600
NC 55 to Alston Avenue	189,200
Alston Avenue to NC 147	189,200
NC 147 to Davis Dr	223,500
Davis Dr to S. Miami Blvd	229,200
S. Miami Blvd to Page Rd	249,500
Page Rd to I-540	260,000
I-540 to Airport Blvd	217,700
Airport Blvd to Aviation Pkwy	209,200
Aviation Pkwy to N. Harrison Ave	238,300
N. Harrison Ave to Wade Ave	245,500

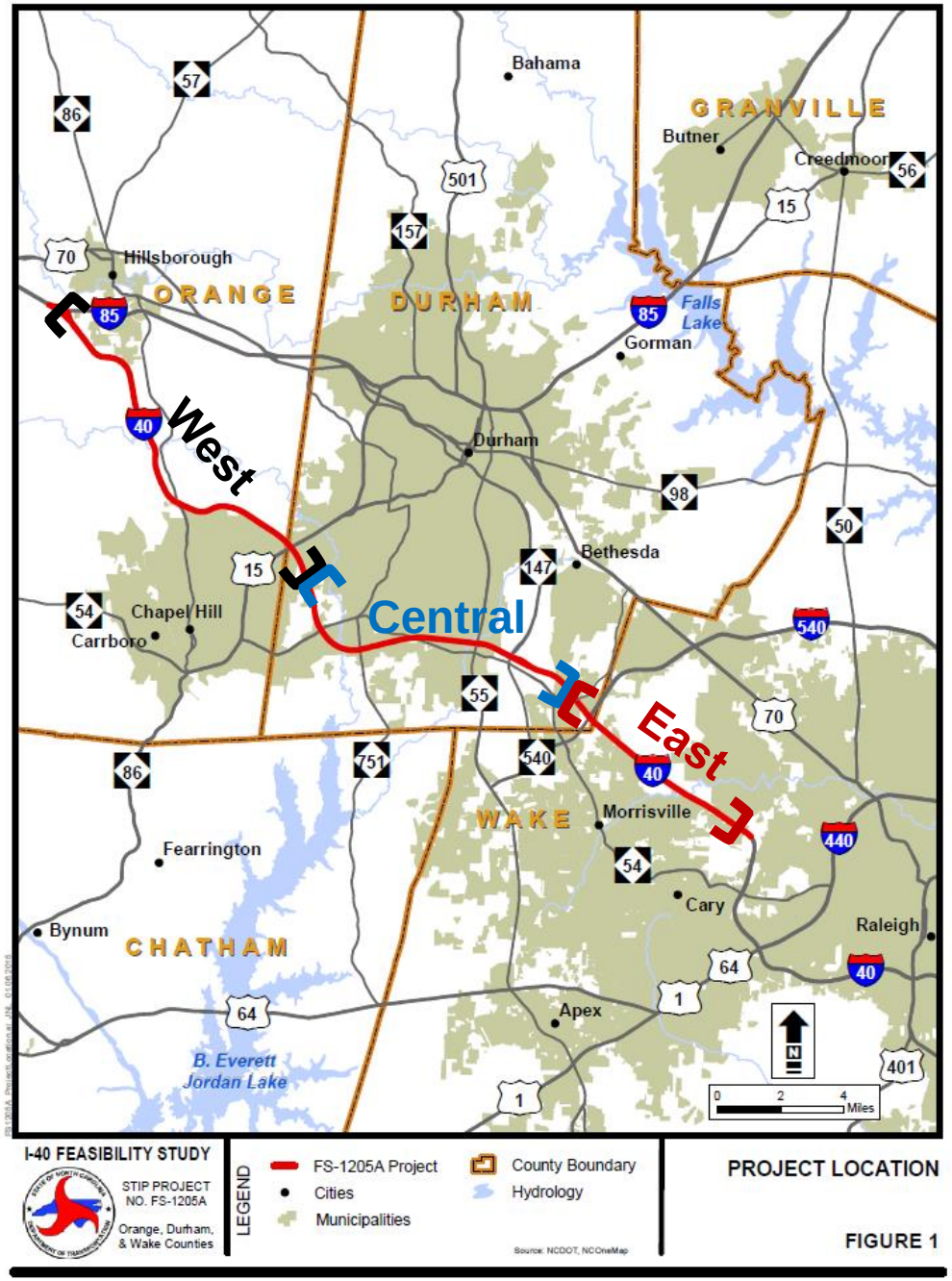
Potential Major Issues

- Determination of ultimate number of managed lanes by segment.
- Major managed lane connection at I-540 and NC 147
- Ultimate location of direct ingress and egress points
- Potential Right of Way impacts at ingress and egress points
- Reconstruction of current lanes required to implement either 1 or 2 managed lanes per direction for much of the corridor.
- Coordination with Transit Projects (See Figure 3)
- Social justice issues of toll lanes

Potential Ingress/Egress Points

- **Estimated costs include these preliminary ingress/egress points:**
  - **Wade Avenue**
  - **Harrison Avenue**
  - **Aviation Parkway**
  - **I-540 (Major Interchange connection)**
  - **S. Miami Boulevard**
  - **NC 147 (Major Interchange connection)**
  - **NC 751 or Renaissance Parkway**
  - **US 15-501 via Mt. Moriah Road**
  - **NC 86**
- **Not all of the preliminary identified locations will ultimately be constructed and some might shift in exact location based on more detailed analysis and modeling.**
- **The final determination will need be made during later planning and design phases.**

Cost Comparison



- **West**
  - One managed lane -- $230 million
  - Two managed lanes -- $251 million
- **Central**
  - One managed lane -- $396 million
  - Two managed lanes -- $419 million
- **East**
  - One managed lane -- $421 million
  - Two managed lanes -- $424 million
- Entire Corridor
  - One managed lane -- $1.05 Billion
  - Two managed lanes -- $1.1 Billion

Conclusion and Recommendations

- Alternative 2 (two managed lanes in each direction) is the preferred alternative. It best meets the long term needs of the corridor by providing a more reliable travel time and flexibility in the corridor at a very modest increase in costs.
- However, a final determination concerning the ultimate configuration (1 or 2 managed lanes per direction) in specific sections will be made during later planning and design stages as refined analysis, revenue and local input are developed and factored in to the process.