



NORTH CAROLINA'S I-77 HOV TO HOT LANE CONVERSION

Future Growth and Transportation

- North Carolina is the 6th fastest growing State in the Country
- The City of Charlotte and Mecklenburg County expects growth of over 77 percent in the next 20 years
- The region is the heart of a major freight and manufacturing center in the Southeast and hosts corporate and regional headquarters, including Bank of America, Lowe's , Wells Fargo
- I-77 is one of the most congested corridors in the region and is in need of capacity expansion
- MUMPO 2035 Long Range Transportation Plan identifies 64 transportation projects of over \$6 billion

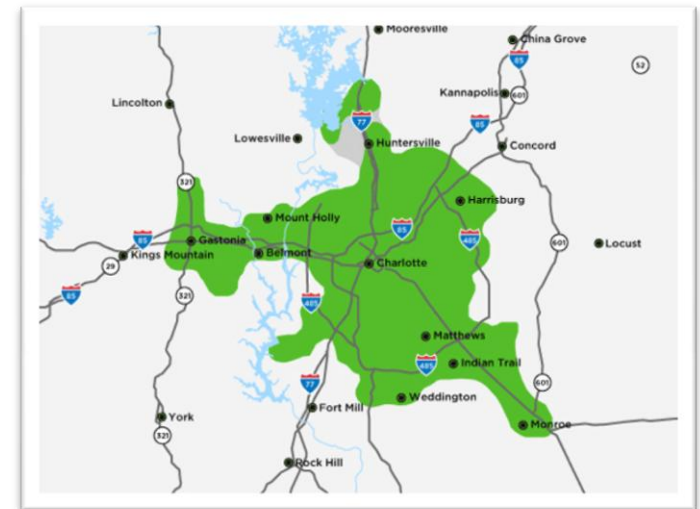
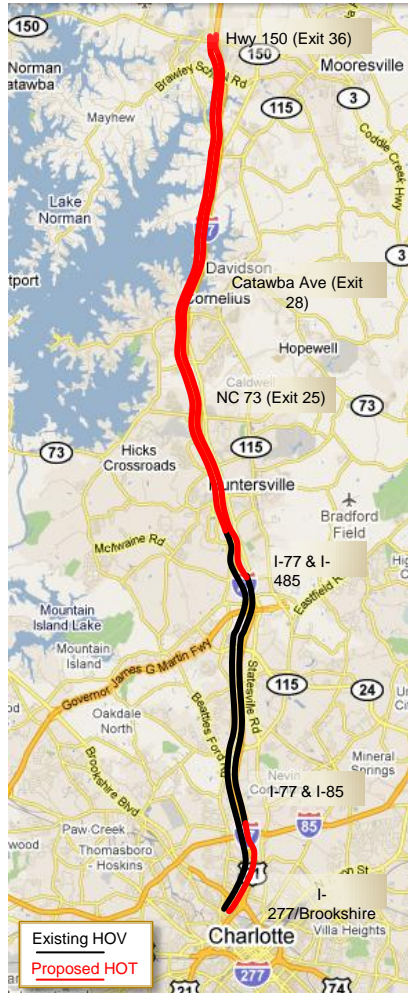


Figure 1: Charlotte Region, NC

Project Overview

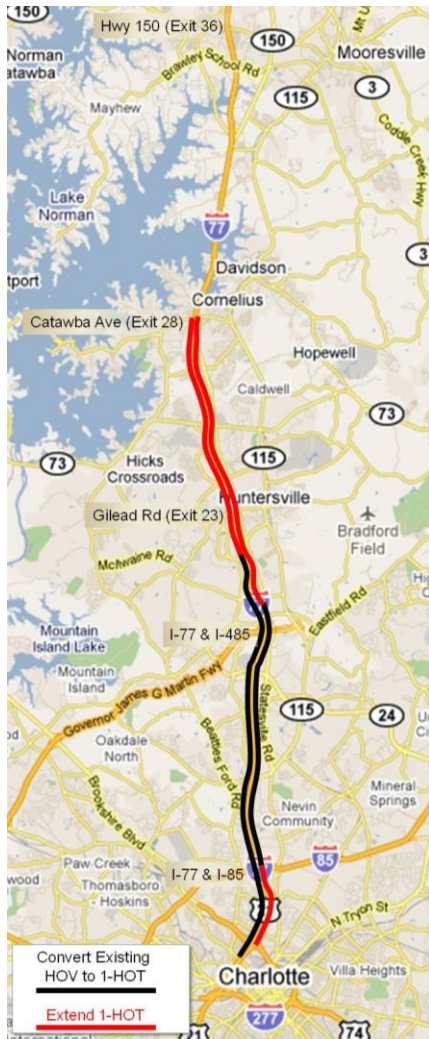


- Primary objective is to improve congestion and capacity and continue the use of high occupancy lanes for transit
- Potential scenarios being explored include:
 - conversion of the existing HOV lanes to HOT lanes,
 - expansion from one (1) HOV / HOT lane to two (2) HOT lanes, and
 - extension of the HOT lanes south the I-277/Brookshire Freeway and north to either exits 28, 33 or 36 (as yet TBD)
- NCDOT is considering the use of P3 for development (legislation enables P3 projects)— design, financing, construction and operation

Project Considerations

- Establish policy and program success, including:
 - Vision for mobility in the region
 - Variable tolling to facilitate congestion management
 - Integrate with other projects in the corridor
- Maximize the use of private sector funds to combat congestion in the corridor
 - Minimize NCDOT's upfront cost and potential subsidy in order to better leverage scarce resources
 - Leverage revenue capability to facilitate the deployment of additional infrastructure
 - Maximize amount of revenue available to facilitate the deployment of a P3 project
- Maximize throughput and desired level of service (LOS)
- Coordinate operations and maintenance (O&M) activities in the I-77 corridor effectively

Potential Project Scenarios



- Preliminary base case examined includes converting the existing HOV facility and extending South to I-277/Brookshire and North to Exit 28
 - End points – Church/Tryon Street to Exit 28
 - Configuration – 1 HOT lane, convert existing HOV lanes and extend South and North
- Sensitivities examined include:
 - Extend North to Exit 36
 - 2 HOT lane facility
 - Omit South extension

Next Steps

- Collaboration between NCDOT, MUMPO, area transit agencies, and other area stakeholders
- Analyze P3 delivery method for I-77 project
- Project timeline
 - High-level financial analysis has been conducted
 - Preliminary conversations with FHWA regarding tolling and environmental approval has been initiated
 - Level 2 Traffic and Revenue corridor studies are being initiated
 - Environmental issues and impacts to timing and scope are being examined
 - Project Scope will be refined and determined
 - Update financial analysis, including “base case”
- Objective is to have delivery model determined by December 2011 and, if P3, preferred bidder by October 2012

Project Scenario Analysis

NPV @ 5% (\$m)	Scenario 1*	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6*	Scenario 7*	Scenario 8	Scenario 9
Description	Convert existing HOT	Convert + south	Convert + South and North to Exit 28	Convert + South and North to Exit 36	Convert + North to Exit 28	Convert + North to Exit 36	Convert – 2 HOT	Convert + South and North to Exit 28 – 2 HOT	Convert + North to Exit 28
Configuration	1 HOT - 277 - 485	1 HOT – CT – 485	1 HOT – CT – Exit 28	1 HOT – CT – Exit 36	1 HOT – 85 – Exit 28	1 HOT – 85 – Exit 36	2 HOT – 277 – 485	2 HOT – CT – Exit 28	2 HOT – 85 – Exit 28
Construction	(26.97)	(164.90)	(222.46)	(374.99)	(83.97)	(236.49)	(226.73)	(339.81)	(166.86)
Revenue	243.88	415.47	1,645.45	2,280.36	1,492.36	2,123.33	249.45	1,648.26	1,492.84
O&M	(38.86)	(55.99)	(116.69)	(158.43)	(98.17)	(139.92)	(53.51)	(136.20)	(113.28)
Lifecycle	(14.60)	(16.87)	(27.38)	(39.66)	(20.31)	(32.59)	(25.53)	(47.47)	(34.72)
Concession Fee/ (Subsidy)	15.60	(70.91)	177.72	103.78	262.61	195.70	(198.41)	15.68	164.68
Concession Fee/ (Subsidy) %	57.70%	(43.00%)	77.60%	26.85%	307.40%	80.35%	(87.51%)	4.45%	95.20%