

## Presentation of Study Findings

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# Preliminary Traffic and Revenue Study

## Proposed Western & Southern Wake County Toll Road



June, 2006



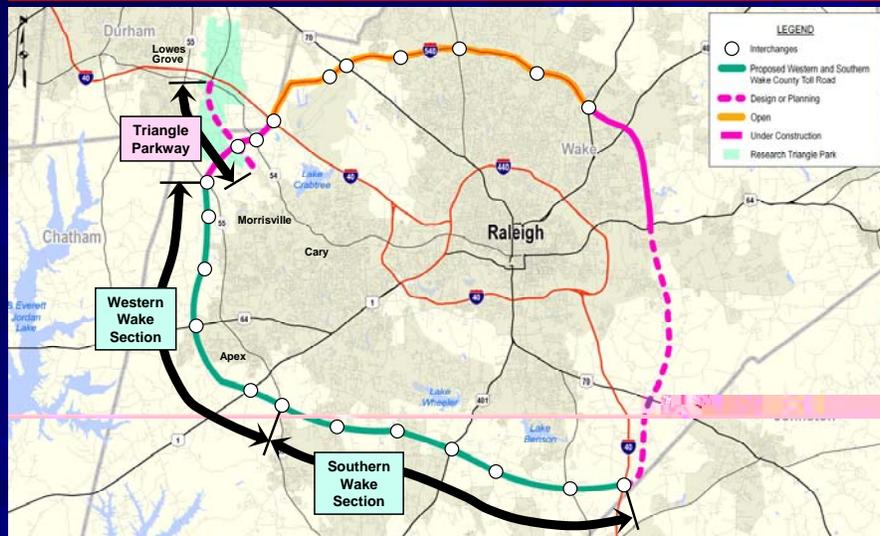
## Study Overview

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- Preliminary Study
  - Not intended for use in support of project financing
- Used Available Economic Forecasts and Transportation Models From MPO's
- Considered Four Project Alternatives
  - Three for Western Wake
  - One for Western & Southern Wake
- Tested Toll Rate Sensitivity
- 40-Year Revenue Forecast



## Regional Location Map



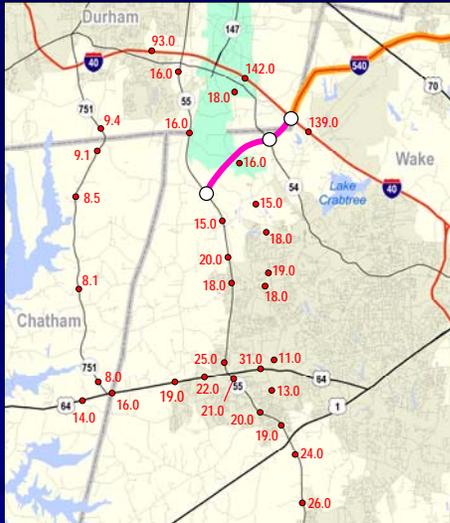
## Study Approach

- Corridor Review and Speed / Delay Studies
- Traffic Counts
- Traffic Modeling at 2011, 2015, 2020, 2025, 2030 Levels
  - Multiple project alternatives
- Toll System and Rates
- Preliminary Annual Traffic and Revenue Forecasts

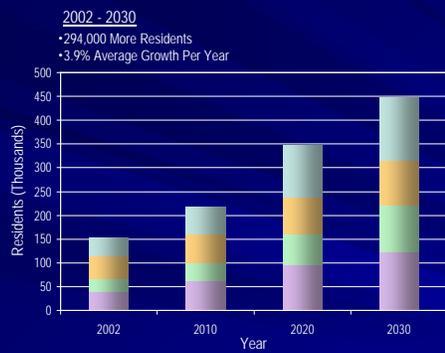
# 2002 Traffic Counts

**LEGEND**

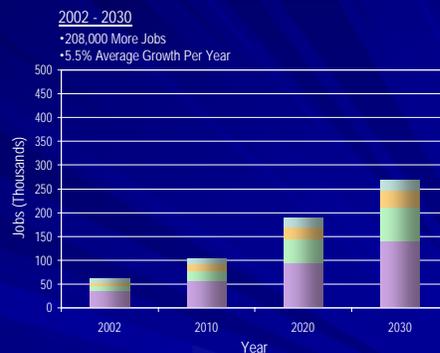
- Under Construction
- Interchange
- Traffic Volume (In Thousands)



# Study Area Projected Growth



Population

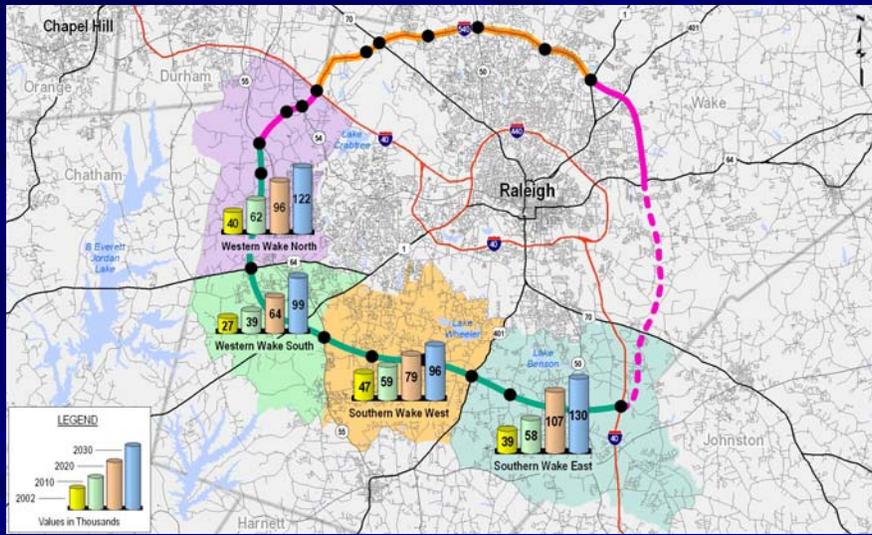


Employment

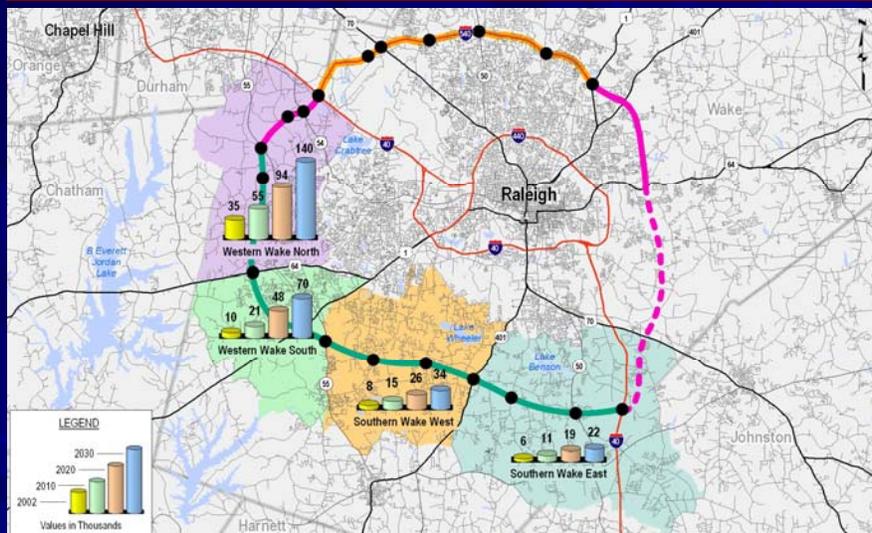
- Southern Wake East
- Southern Wake West
- Western Wake South
- Western Wake North



# Population Growth by Corridor Sector



# Employment Growth by Corridor Sector



## Project Scenarios

- **Scenario 1: Western Wake County Toll Road**
  - NC 55 to NC 55 near Holly Springs
  - One mainline toll plaza and five ramp plazas
- **Scenario 1A: Same as Scenario 1 plus:**
  - Proposed Triangle Parkway from I-40 to McCrimmon Pkwy.
  - I-540 from Chapel Hill Rd. (NC 54) to NC 55 Tolled
  - Three mainline toll plazas and six ramp plazas
- **Scenario 1B: Same as Scenario 1 plus:**
  - Proposed Triangle Parkway from I-40 to McCrimmon Pkwy.
  - Three mainline toll plazas and six ramp plazas
- **Scenario 2: Western & Southern Wake County Toll Road**
  - Scenario 1 plus Southern Wake from NC 55 near Holly Springs to I-40 near Wake/Johnston County Line
  - Two mainline toll plazas and ten ramp toll plazas



## Western Wake Section – Scenario 1



# Scenario 1 Toll Concept

- LEGEND
- Under Construction
  - Western Wake Section
  - Interchange
  - Interchange With Ramp Toll Plazas
  - ▬ Mainline Toll Plaza

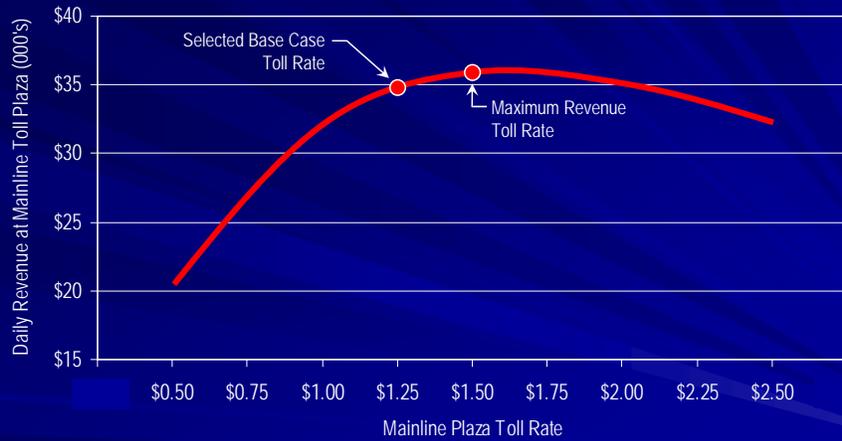


# Scenario 1A and 1B Toll Concepts

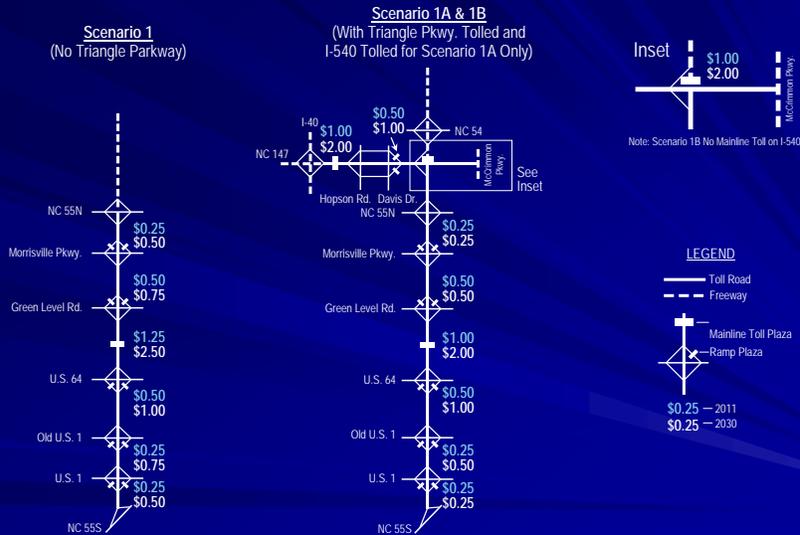
- LEGEND
- Under Construction
  - Western Wake Section
  - Triangle Parkway
  - Interchange
  - Interchange With Ramp Toll Plazas
  - ▬ Mainline Toll Plaza



# 2011 Toll Sensitivity Curve



# Comparison of Passenger Car Toll Rate Assumptions - Scenarios 1, 1A, 1B (Base Case Tolls)



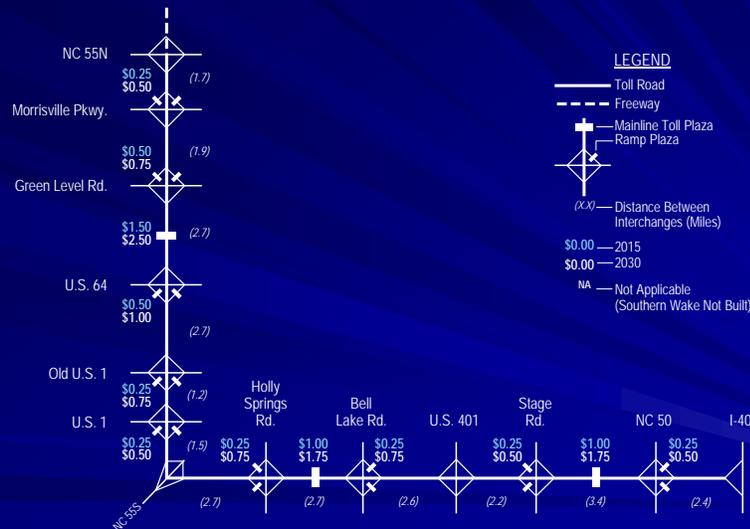
## Mainline Plaza Passenger Car Toll Rate Assumptions

	Scenario 1		Scenario 1A and 1B*			
	Western Wake Plaza		Western Wake Plaza		Triangle Pkwy & I-540	
	Base Case	Maximum Revenue	Base Case	Maximum Revenue	Base Case	Maximum Revenue
2011	\$1.25	\$1.50	\$1.00	\$1.50	\$1.00	\$1.00
2015	\$1.50	\$1.75	\$1.25	\$1.75	\$1.25	\$1.25
2020	\$1.75	\$2.00	\$1.50	\$2.00	\$1.50	\$1.50
2025	\$2.00	\$2.25	\$1.75	\$2.25	\$1.75	\$1.75
2030	\$2.50	\$2.75	\$2.00	\$2.75	\$2.00	\$2.00
2035	\$2.75	\$3.00	\$2.25	\$3.00	\$2.25	\$2.25
2040	\$3.00	\$3.25	\$2.50	\$3.25	\$2.50	\$2.50

\* Note: I-540 Plaza is Included Only in Scenario 1A



## Assumed Passenger Car Toll Rates Scenario 2



## Comparison of Per Mile Toll Rates - 2015 Levels

	Maximum Length	Base Tolls		Maximum Revenue	
		Through Toll	Per Mile	Through Toll	Per Mile
Scenario 1	11.7	\$1.50	\$0.128	\$1.75	\$0.150
Scenario 1A					
• Triangle Parkway	17.4	\$2.25	\$0.129	\$3.00	\$0.172
• I-540	15.7	\$2.25	\$0.143	\$3.00	\$0.191
Scenario 1B					
• Triangle Parkway	17.4	\$2.25	\$0.129	\$3.00	\$0.172
Scenario 2	27.7	\$3.50	\$0.126	NA	NA

Range of Current Rates in Urban Facilities: \$0.07 - \$0.28 Per Mile

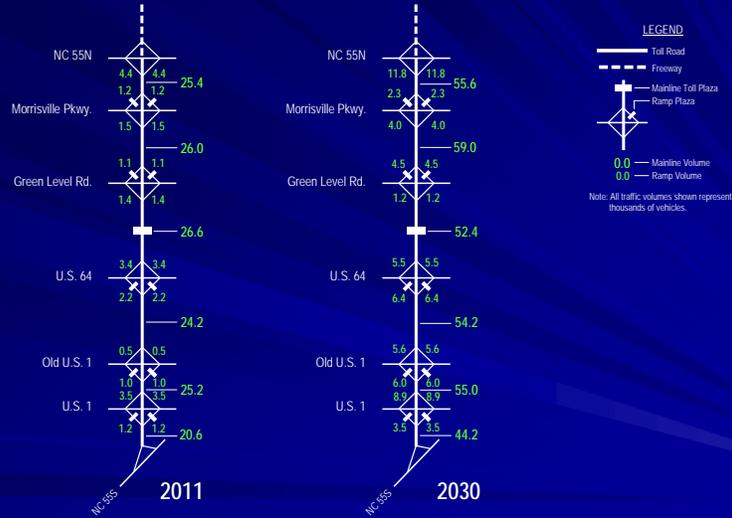


## Key Assumptions

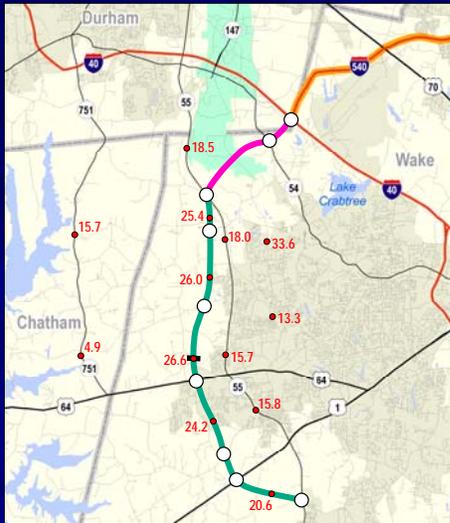
- Western Wake County Toll Road Open By 2011
- Triangle Parkway Open by 2011 for Scenarios 1A and 1B
- I-540 from I-40 to NC 55 Open by 2011
  - Toll Free Under Scenarios 1 and 1B
  - Tolloed Under Scenario 1A
- Southern Wake County Toll Road Section Open by 2015 for Scenario 2
- Road Projects Contained in MPO Long Range Transportation Plans will be Completed as Shown in the Plans
- Economic Growth Will be as Estimated in Triangle Transportation Model
- Both Cash and Electronic Tolling Offered; Majority of Users Expected to Use Electronic Payment
- Opening Year Toll Rates and Future Increases as Discussed in Report



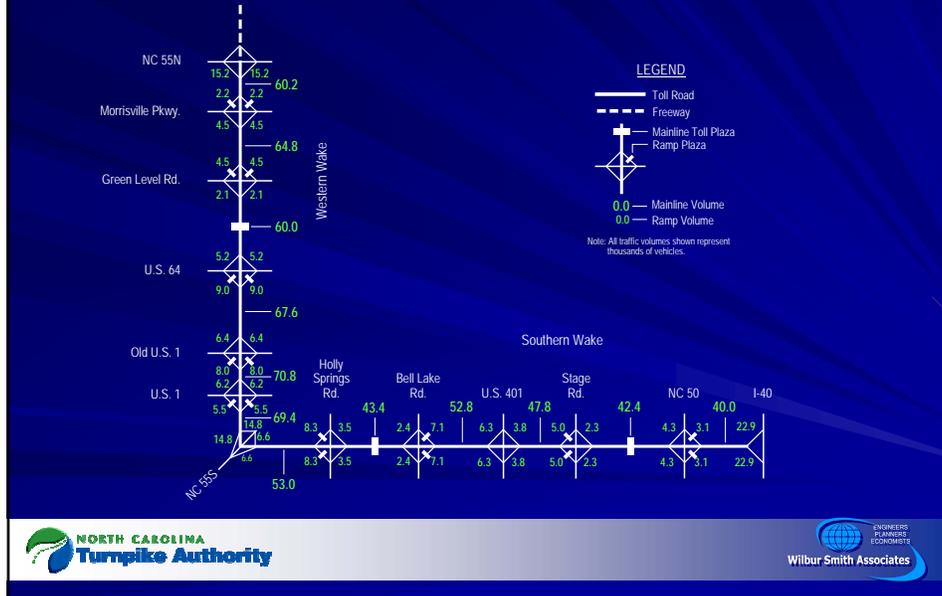
# Estimated Weekday Traffic Scenario 1 - Western Wake Section



# Estimated 2011 Traffic Share – Scenario 1



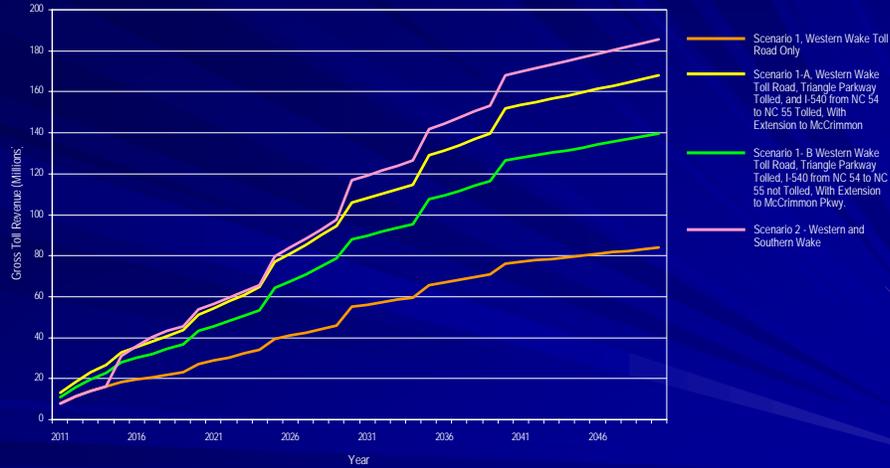
## Estimated 2030 Weekday Traffic Scenario 2 - Western and Southern Wake Segments



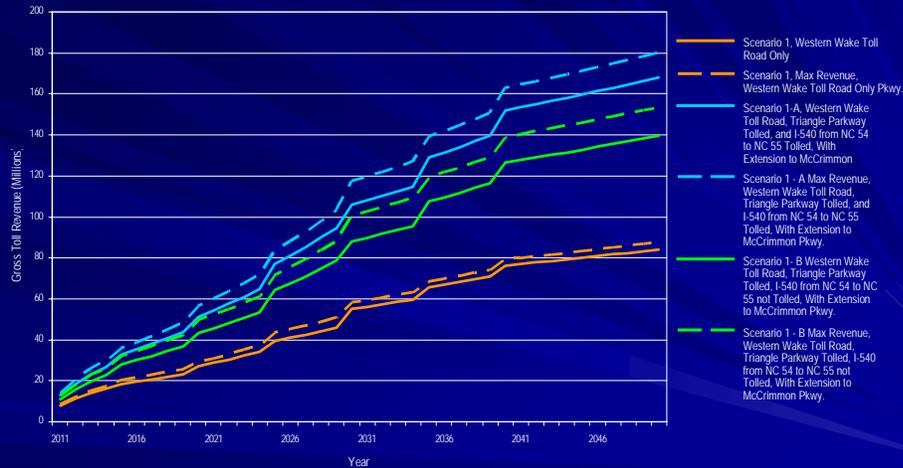
## Comparison of Estimated Annual Revenue (Thousands)

Year	Case	Scenario 1	Scenario 1A	Scenario 1B	Scenario 2
2015	Base Case	\$18,401	\$32,885	\$28,102	\$31,233
	Max. Revenue	20,118	35,986	31,802	N/A
2030	Base Case	\$55,120	\$106,040	\$88,139	\$116,881
	Max. Revenue	58,020	117,074	100,573	N/A

# Annual Gross Revenue Forecasts Proposed Western and Southern Wake County Toll Road



# Annual Gross Revenue and Maximum Revenue Potential Proposed Western Wake County Toll Road



## Summary and Conclusions

- Extremely Strong Economic Growth Forecast for Study Area
  - Subject to considerable review in Investment Grade Study
- Western Wake County Toll Road Will Provide Major Traffic Benefits in Future
  - Especially if combined with Triangle Parkway and I-540 from NC 54 to NC 55
- Addition of Triangle Parkway and Tolling of I-540 Increases Revenues Significantly
- Addition of Southern Wake County Section in Future Would Provide Major Benefits by Allowing Greater Access for the Southern part of the Wake County and Providing Full Bypass of I-40

