

Partnership for Progress HOV TO HOT



Atlanta's CRD Program Overview



April 20, 2011



Atlanta Regional Population and Employment

Population	2010 Population	2010 % Regional Population	2040 % Regional Population
2 - Core Counties	1,704,400	32%	27%
4 - Near Suburban Counties	1,839,600	35%	32%
14 - Far Suburban Counties	1,710,400	33%	41%
<i>20 County Region</i>	<i>5,254,400</i>		
Employment	2010 Jobs	2010 % Regional Employment	2040 % Regional Employment
2 - Core Counties	961,700	44%	40%
4 - Near Suburban Counties	745,100	34%	33%
14 - Far Suburban Counties	466,900	21%	27%
<i>20 County Region</i>	<i>2,173,700</i>		

Source: ARC Regional Snapshot February 2011 and 2000 US Census

Regional Commute Trips

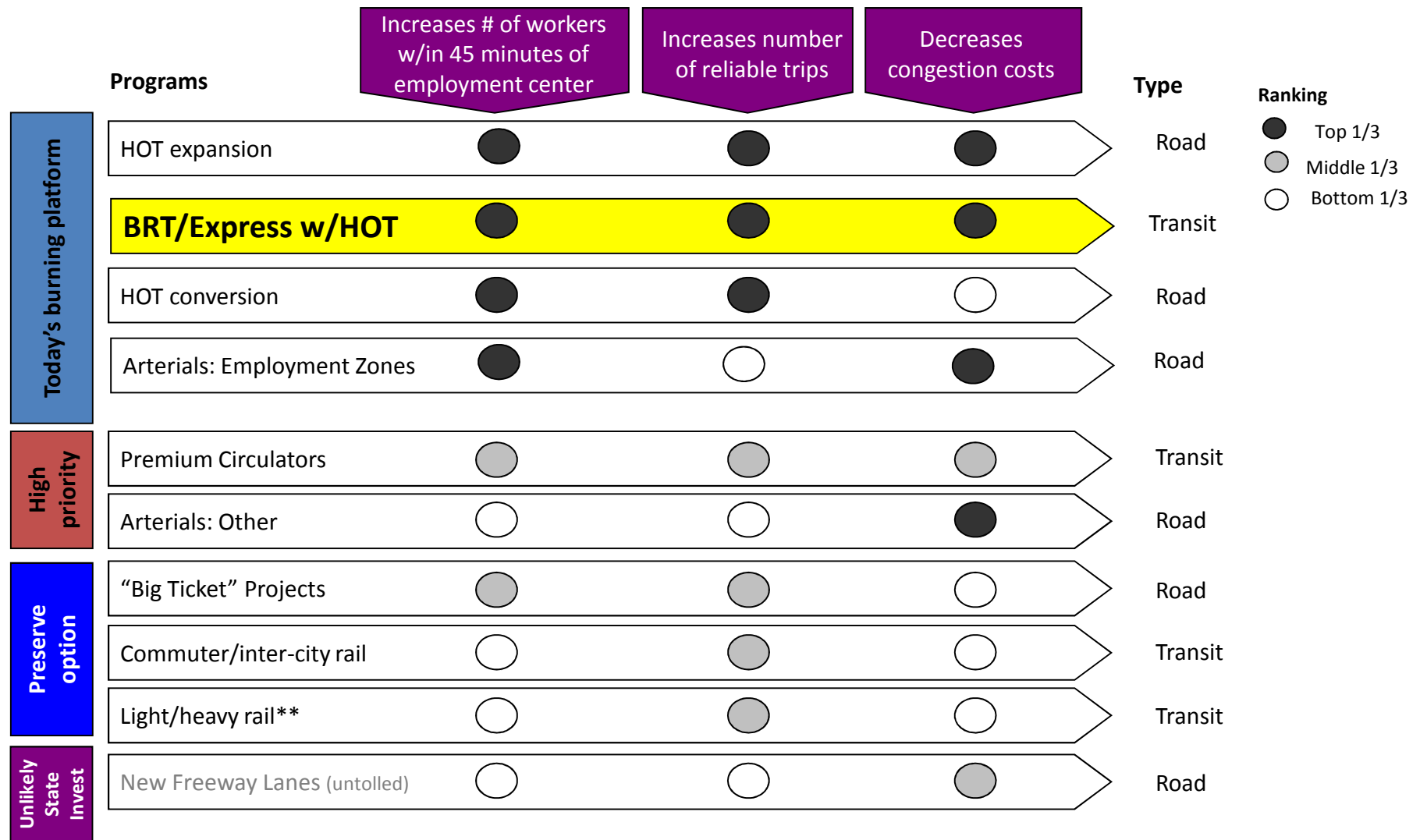
County	2009 - % of workers who work outside of county of residence*
Paulding	76.5%
Clayton	67.0%
Henry	64.5%
Douglas	62.0%
Walton	61.8%
Barrow	61.1%
Cherokee	58.5%
Newton	57.4%
Rockdale	55.8%
Fayette	54.9%
DeKalb	54.2%
Coweta	53.3%
Forsyth	52.5%
Spalding	45.6%
Gwinnett	41.8%
Cobb	41.6%
Carroll	41.1%
Bartow	38.2%
Hall	28.7%
Fulton	28.0%
20 County Region	46.3%

Activity Center	2030 AM Peak Work Trips
Center City	113,142
Midtown	97,858
Perimeter	77,446
Hartsfield	73,099
Buckhead	72,754
Cumberland	60,722
Emory	29,262

Source: 2009 American Community Census and ARC Regional Travel Model

* Data ranked by % of workers who work outside of county of residence (highest to lowest)

Statewide Strategic Transportation Plan Program Rankings

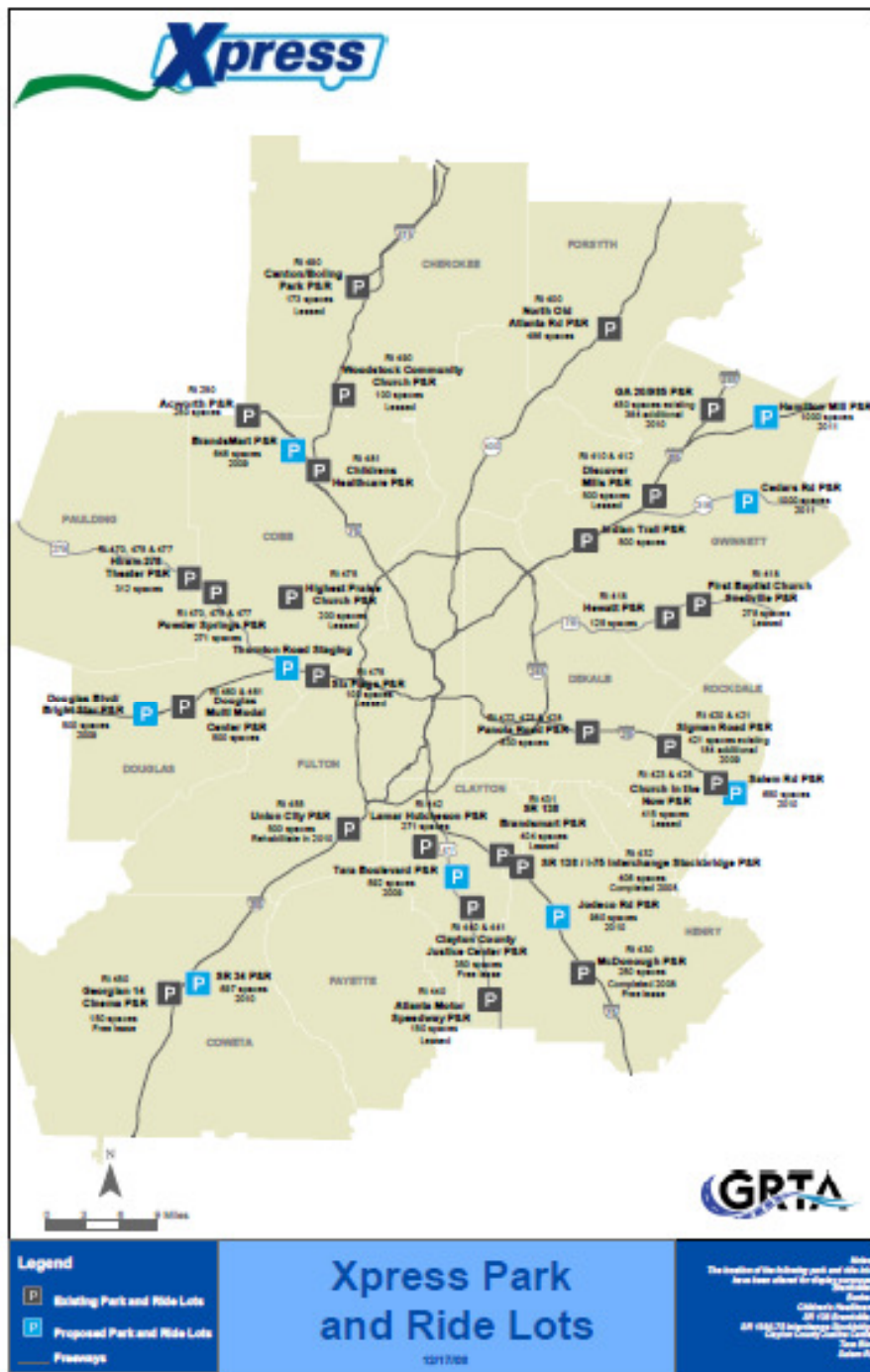


* 2030 view normalized per \$1B spend; net cost includes CapEx and 20-year O&M costs, less expected revenue

SOURCE: GRTA/ARC travel demand model; Kimley-Horn; team analysis



***Xpress* Improves the Capacity of
Metropolitan Atlanta's Highways**



As of June 2010	Lots	Spaces
Leased	10	3,737
Interagency	8	3,018
Owned by GDOT	8	3,165
Construction FY 11	4	3,042
Construction FY 12	4	2,100





Customer Satisfaction and Steady Growth

Xpress Rider Survey, Spring 2010	
I Love It	52%
It's Really Good	41%
It's OK	6%
I wish I didn't have to use it	1%
I will never ride it again	0%



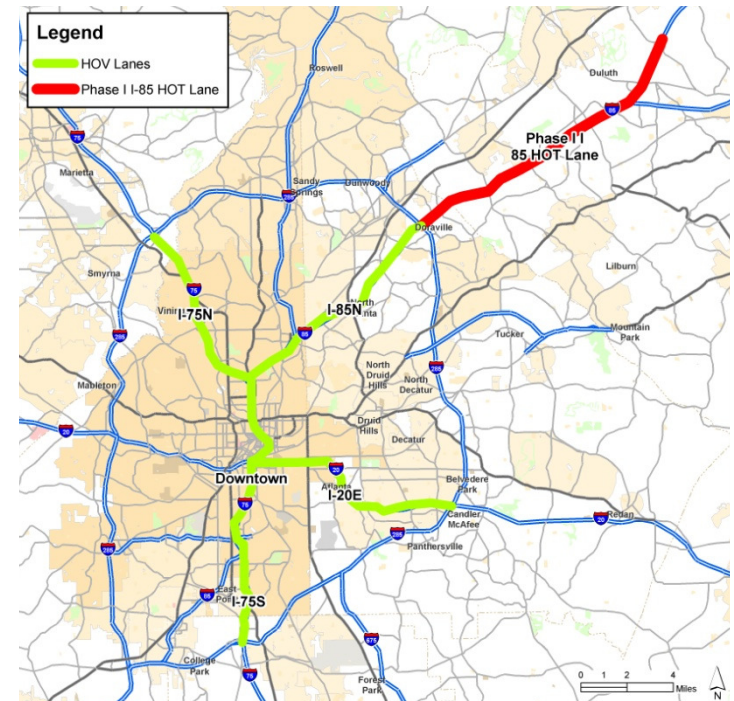
Forbes: America's Most Congested Cities

[Lauren Sherman](#), 02.25.09

“There are some cities, however, that have made a concerted effort to reduce congestion, independent of the economy. [Atlanta](#), for example, saw a 36% decrease from 2007 to 2008 because of government-funded initiatives such as suburban park-and-rides. These allow those who live outside of the city's boundaries to park cheaply in a lot and take public transportation to the office.”

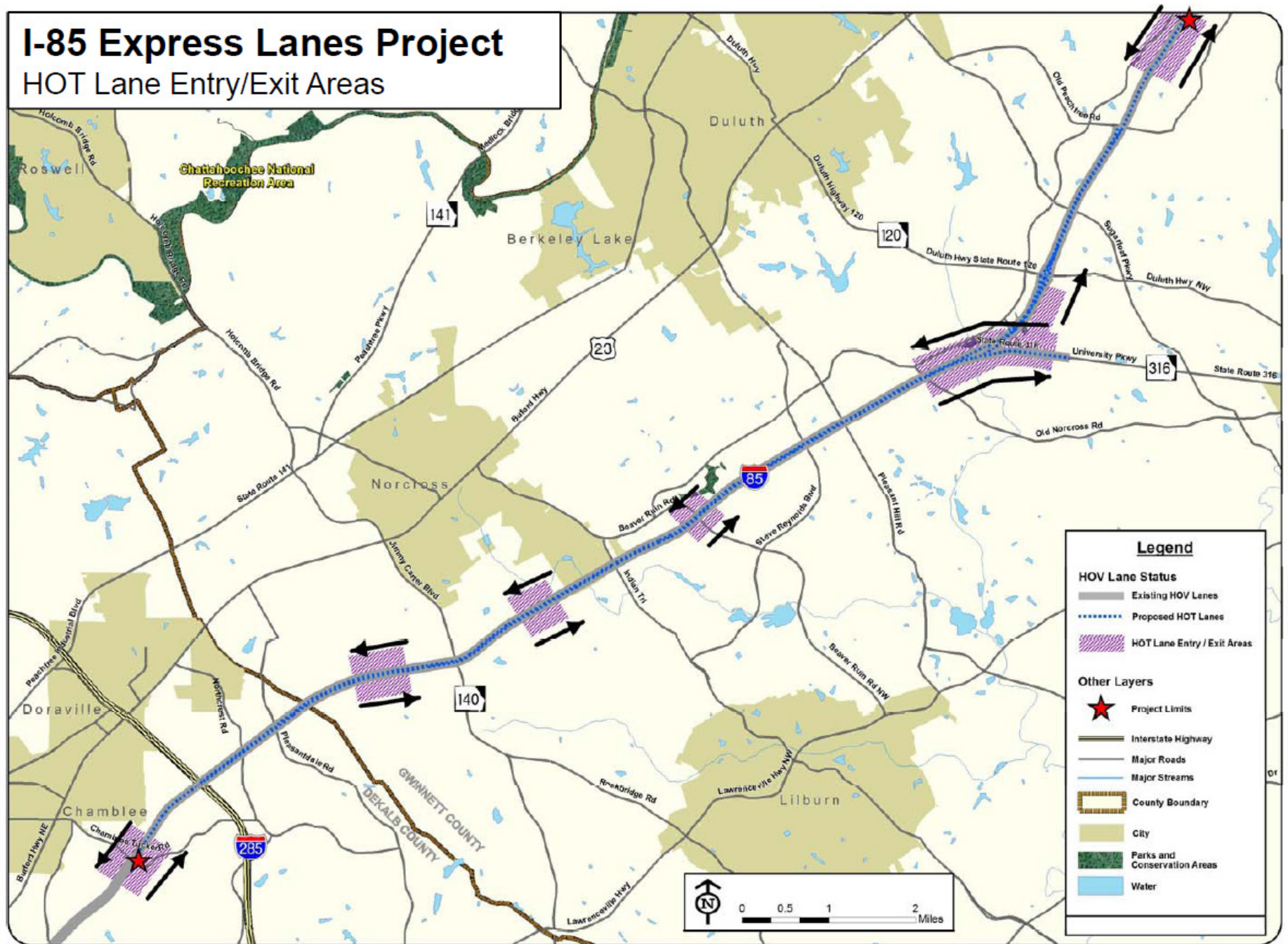
Atlanta Congestion Reduction Demonstration

- USDOT Congestion Reduction Demonstration Program Grant awarded on November 21, 2008
- HOV2+ to HOT3+ conversion of I-85 (@16miles)
- 36 new commuter coaches, 2 park and rides
- Total cost \$182 million, with USDOT contributing \$110 million
 - Public outreach
 - Tolling system development and construction
 - Transit improvements



I-85 Express Lanes Project

HOT Lane Entry/Exit Areas

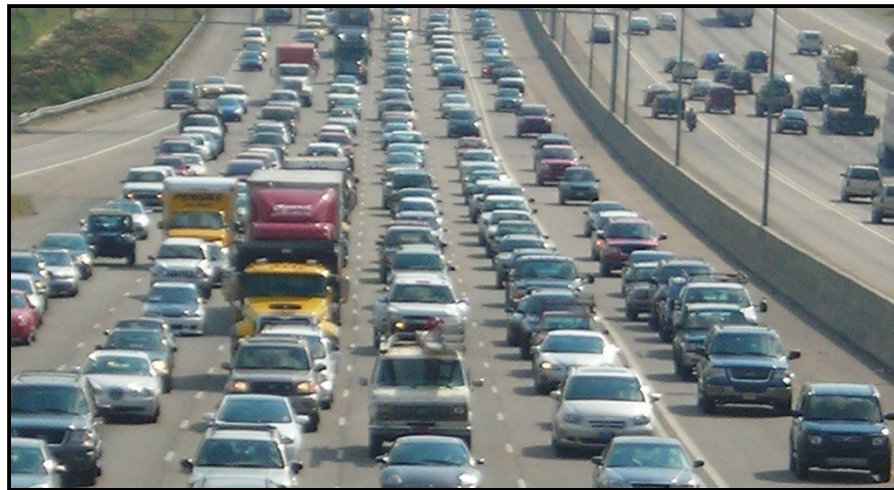


Determining Needs and Solution

- Finding the common ground, “Transportation Choice” to address regional congestion
 - “Can’t build your way out of it”
 - Holistic transportation solution approach
 - Tolling, transit, technology, not mode transportation biased
- UPA/CRD program galvanized local partners
 - “New” money, not taking away from existing transportation initiatives
 - Opportunity from the Federal level, demonstration with Federal funding
 - Ultimately had to make commitment to implement instead of doing another study
 - Tight time schedule – need to make decision quickly, visible results wanted quickly

HOV2+ to HOT3+ Progression

- HOV2+ in 2005 – Heavy use, no reliable trip times
- HOV2+ today – Use, reliable trip times at times
- HOV2+ in 2015 – Over use, no reliable trip times
- HOV3+ in 2015 – Under use, reliable trip times
- HOT3+ in 2015 – Optimal use, reliable trip times, choice for SOV and HOV



Interagency Relationships

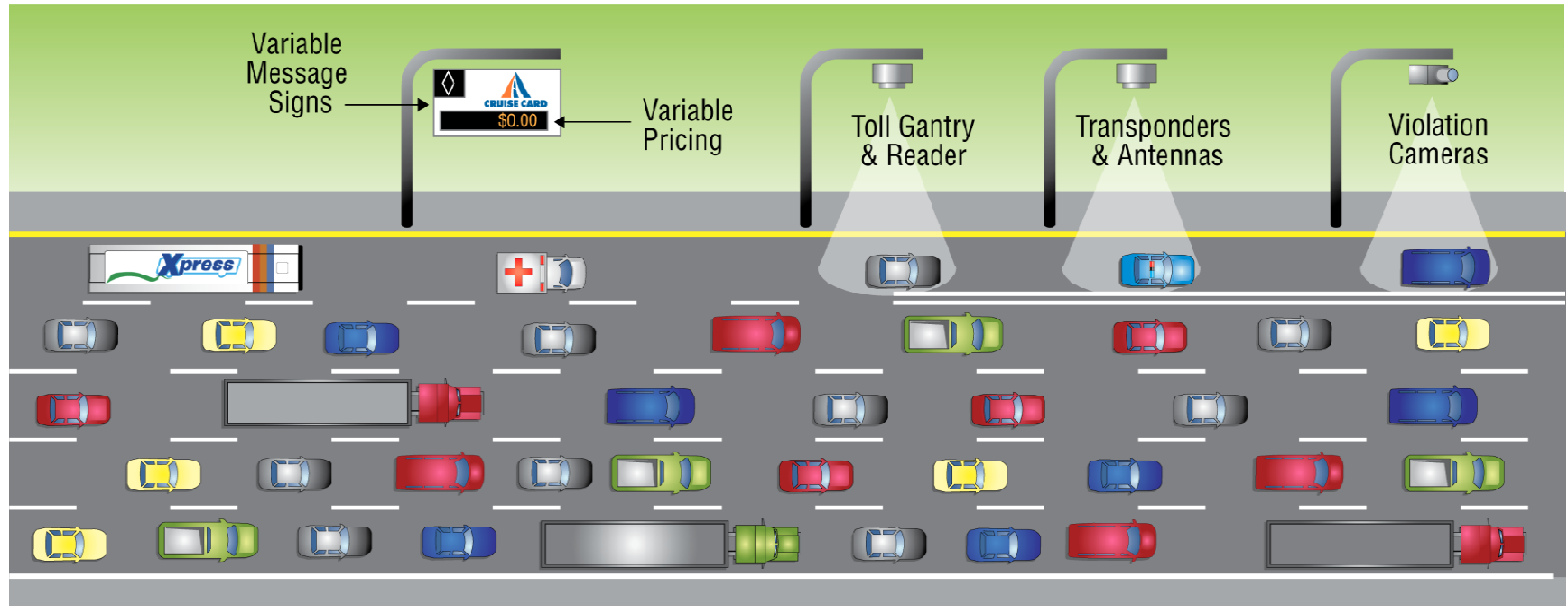
- 3 lead agencies proposed on the grant together (DOT, Tolling, Transit), but engaged partners from the beginning during grant writing
- Strong support from elected officials, particularly the Governor
- Educating agency leaders, boards, elected officials, and staff on pricing
 - One-on-one briefings
 - Workshops, as part of transportation retreat
 - Expert panels/Peer-exchanges
 - Many listening sessions of concerns
- Coordination of project messaging
 - Press releases, public outreach, environmental outreach, marketing
- Same people have been actively involved from grant writing, project development, procurements, through to implementation. Thus preserves institutional knowledge and provides project continuity.

Funding and Financing

- \$110 million USDOT Congestion Reduction Demonstration (CRD) grant awarded on November 21, 2008
- I-85 Express Lanes, \$60 million
 - ~16 miles long, from Chamblee Tucker near I-285 to Old Peachtree Road
 - Existing HOV2+ lane conversion to HOT3+
 - GDOT civil construction, SRTA tolling system implementation and operations
 - Open summer 2011
- Regional transit improvements, \$122 million
 - New Xpress Park and Ride Lots including 3 along I-85
 - New Xpress commuter coach
 - Georgia Regional Transportation Authority construction and operations of Xpress
 - Transit completion in 2012
- Total cost \$182 million



Registered Lane

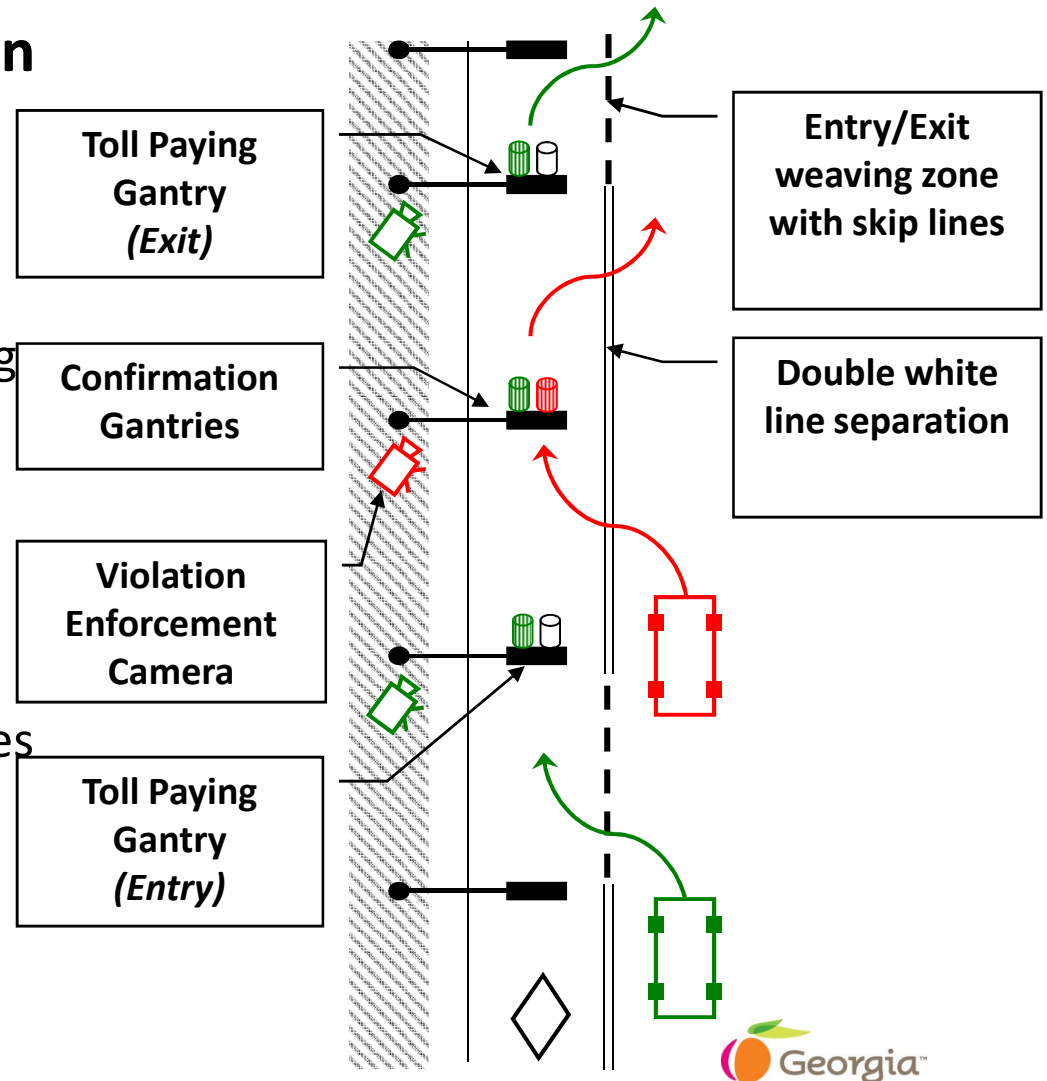


Non-Tolled	Tolled	Prohibited
<ul style="list-style-type: none"> • Motorcycles • Alternative Fuel Vehicles • Over-the-road buses • 3 or more person carpools • Emergency vehicles 	<ul style="list-style-type: none"> • Single driver • 2 Person carpools 	<ul style="list-style-type: none"> • Trucks with more than 6 wheels

Gantry Controlled Access

“Invisible Barrier” solution

- Overhead tolling system detects vehicle entry/exit
- Gantry spacing deters dodging into the HOT lane
- Gantry to gantry monitoring detects entry/exit violations
- Automatic toll violation notices
- Indirectly enforces double white line weaving



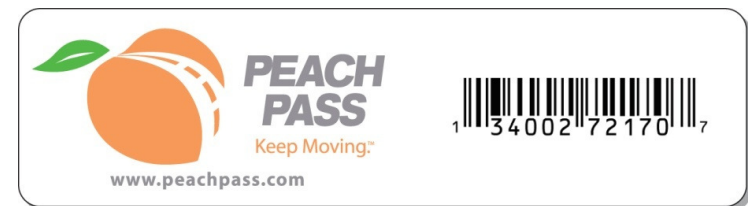
Civil Construction Overview

- Civil construction includes the installation of overhead signage, sign structures, fiber communication network, roadside equipment cabinet, and power connection
- The contract was awarded for \$11.7 million
- Roadway construction began in September 2010
- The project is scheduled to complete on July 31, 2011



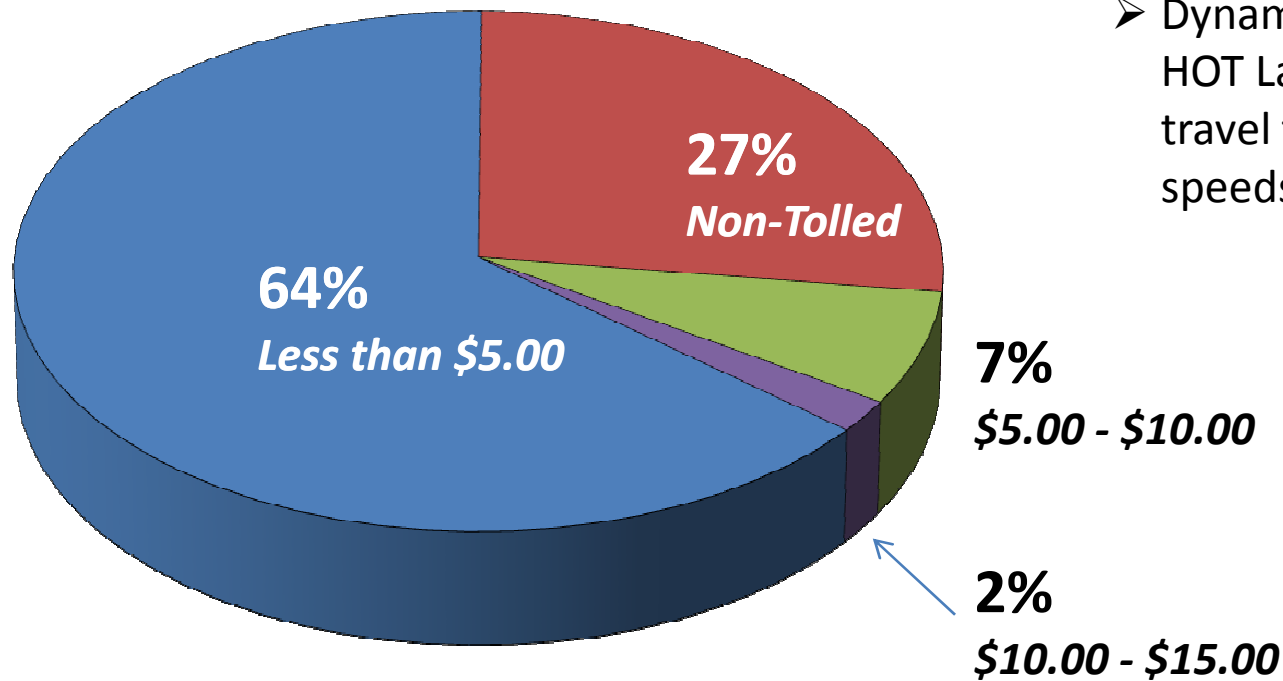
Tolling Technology and System

- Selected TransCore 6c RFID transponders and Federal Signal multi-protocol RFID readers
 - Open Protocol, Non-proprietary RFID allows competitive procurements, no longer tied to a single manufacturer
 - Multi-protocol readers enables interoperability between transponder types
 - Ensures competitive pricing to benefit Georgia residents
 - \$1.59/transponder
- Selected ETCC as tolling system integrator
 - In charge of Back Office, lane equipment, and tolling maintenance
 - System functional requirement completed, Back Office Factory Acceptance Testing on-going, In-Lane equipment Factory Acceptance Testing completed
 - Installation of In-Lane tolling equipment commencing



Pricing & Toll Range

Estimated Weekday Average Toll Rate *Opening Year 2011*



- HOT lane will be dynamically priced so toll price will fluctuate based on congestion levels
- Dynamic pricing enables the HOT Lane to provide reliable travel times with peak hour speeds averaging 45+mph

Enforcement Needs for HOT Lanes

1. Lane Integrity and Weaving

- Separation between HOT lane and general purpose lanes
- Access and egress allowed only in designated sections to reduce weaving to maintain effective capacity

2. Vehicle Occupancy Enforcement

- Meeting occupancy level for toll-free passage in HOT lane
- Current peak period HOV violation rate in Atlanta: 11-12%

3. Toll Avoidance

- Lack of transponder, insufficient funds, or avoidance of physical toll readers (avoiding transponder detector stations)

Traditional enforcement approaches include:

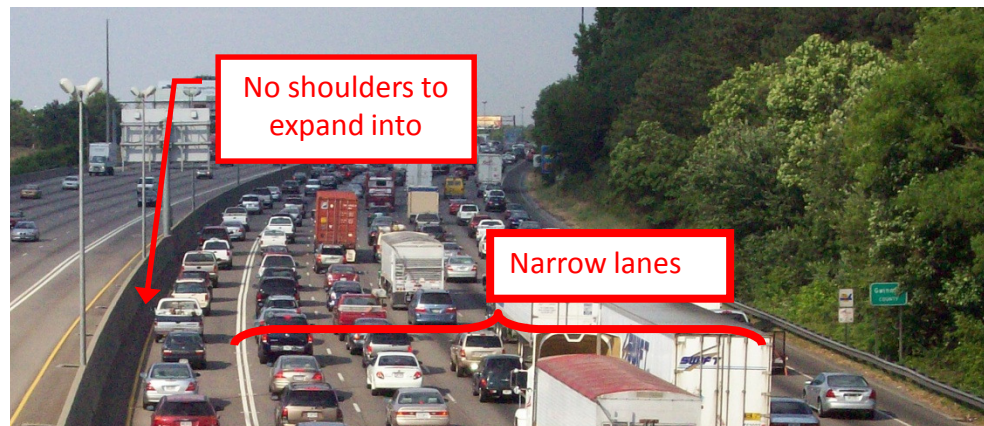
- Physical barrier separation
- Increased enforcement patrols
- Create enforcement pockets
- Public education campaigns

Enforcement Challenges

- Difficult enforcement of HOV lane configuration

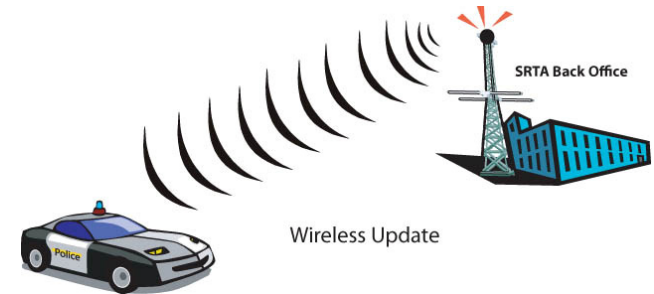


- Limited right-of-way for engineering solutions



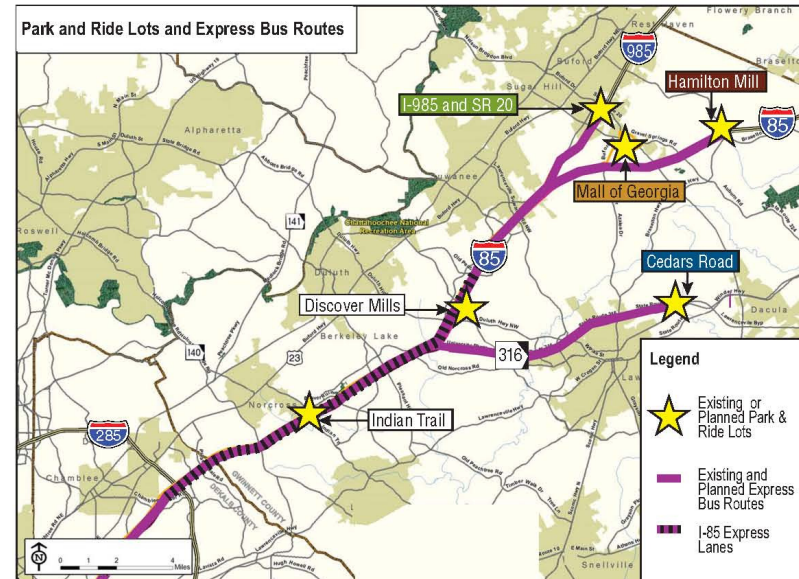
Vehicle Occupancy Enforcement

- Qualifying carpoolers self-declare HOV status by telephone, smart phones, or online account. Other possible ways include kiosks and texting.
- Tolling Back Office transmits list of “Toll-Exempt” vehicles to a mobile Automatic License Plate Recognition (ALPR) system onboard police cars
- The ALPR reads license plate of passing vehicles and notify officers to check occupancy of only “Toll Exempt” vehicles
- Policing efforts reduced to only checking 1 out of every 4 vehicles in the HOT lane
- Police can use ALPR to check for stolen vehicles, arrest warrants, and Amber alerts
- Instead of portable transponder readers, ALPR approach will work with a possible future video tolling option



CRD Transit Projects

- I-85 North HOV to HOT
 - Add 36 coaches on 5 routes
 - Add 2,200 parking spaces in 3 park and ride lots
- Remainder of Region
 - Add 45 coaches on 9 new routes
 - Add 5,000 parking spaces in 8 park and ride lots
 - New operating facilities



Coach



Vanpools



SOVs



I-85 N Transit

Stations / Coaches / Routes

Xpress Stations

Station	Spaces	Open
Mall of Georgia (lease)	750	Aug '10
Hamilton Mill	918	July '11
I-985 / GA 20 (expansion)	384	June '11
Dacula	400	June '12

Xpress Coaches

Order Date	# Coaches	Delivery Date
June '10	20	May '11
June '11	16	April '12

New Routes

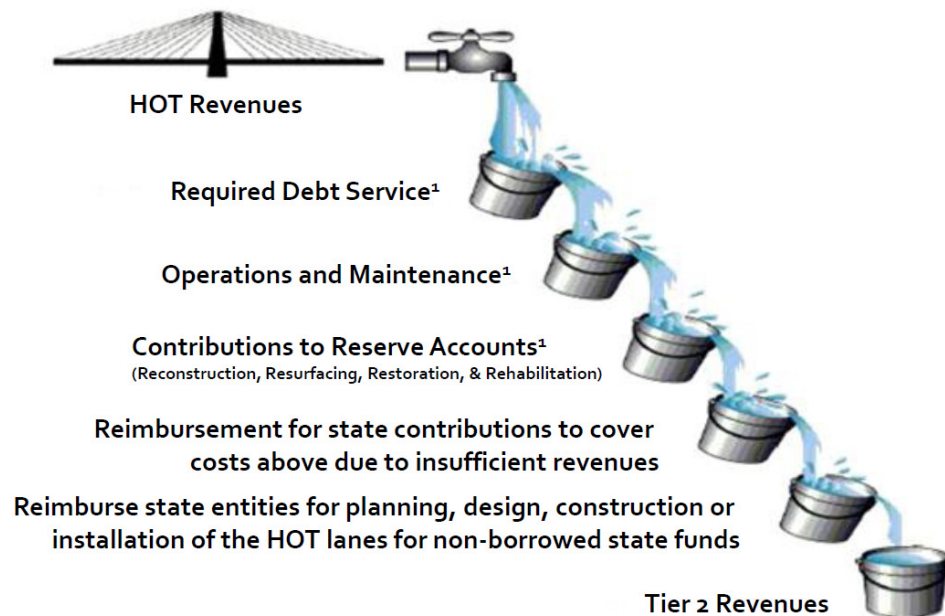
Rt #	From	To	#Buses	Starting	Riders
411	Mall of Georgia	Mid-Town	5	Aug '10	350
413	Hamilton Mill	Down-Town	8	July '11	600
414	Hamilton Mill	Mid-Town	5	July '11	450
416	Dacula	Down-town	8	July '12	600
417	Dacula	Mid-town	5	July '12	450
Total includes 5 spares			36		2,450

Ridership estimates are average daily riders after 36 months of operation.

Use of Toll Revenues

➤ Flow of revenue funds considerations

HOT Revenue Expenditure Diagram



➤ Transit Operations Funding

- HOT Revenues can support increase transit services and expanded system capacity
- HOV to HOT conversion can impact classification as a fixed guideway for 5307 formula funds

- ✓ CRD Term Sheet Execution Nov. '08
- ✓ HOV2 to HOT3 State Transportation Board Policy Mar. '09
- ✓ TIP Approval Jun.'09
- ✓ RFID Procurement Sep. '09
- ✓ FHWA Section 166 Tolling Agreement Execution Nov. '09
- ✓ TCM Approval Nov. '09
- ✓ EA FONSI Approved Mar. '10
- ✓ Pre-Opening Performance Monitoring Start Jan. '10
- ✓ Tolling System Integrator Contract Execution Mar. '10
- ✓ Road Contractor Award Jul. '10
- ✓ Pre-Opening Performance Monitoring Start Aug. '10
- ✓ Xpress Route 411 Mall of Georgia to Midtown Aug. '10
- ✓ Multi-Protocol Reader Contract Execution Jan. '11
- ☐ Launch Peach Pass Customer Campaign Apr.' 11
- ☐ Customer Service Center Go-Live June '11
- ☐ Xpress Route 416 Dacula to Downtown June '10
- ☐ Xpress Route 413 Hamilton Mill to Downtown July '11
- ☐ I-85 Express Lanes Operational Aug. '11
- ☐ I-85 Xpress transit projects completion '12

Atlanta CRD Milestones



INCORPORATED UNDER THE LAWS

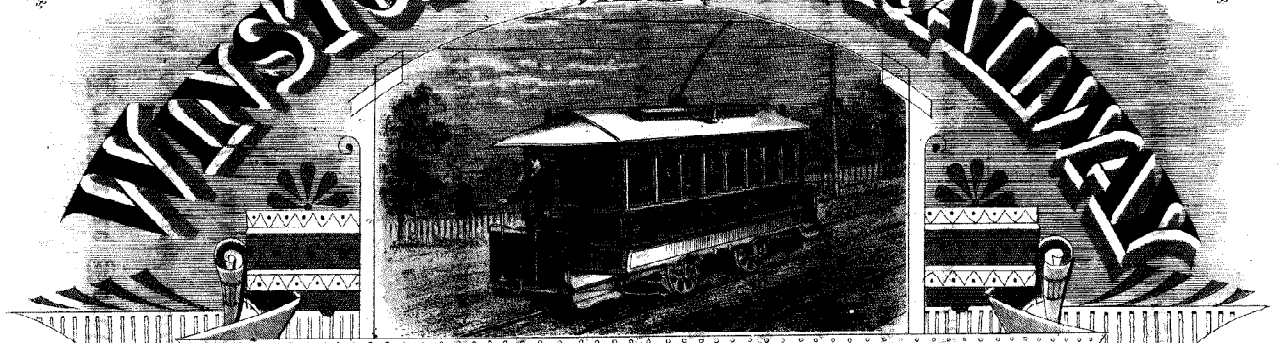
OF THE STATE OF NORTH CAROLINA.

NUMBER
276

SHARES

WILMINGTON SALEM RAILWAY

AND



ELECTRIC COMPANY

Countersigned & Registered this
THE STATE TRUST COMPANY

Secretary.

189

day of

This is to Certify that

SHARES

Secretary thereof, at New York this day of 189

Tr. R. Elliot & Co., 47 Broad St. N.Y.

Secretary

President