

Mayor Karl Dean, Chairman



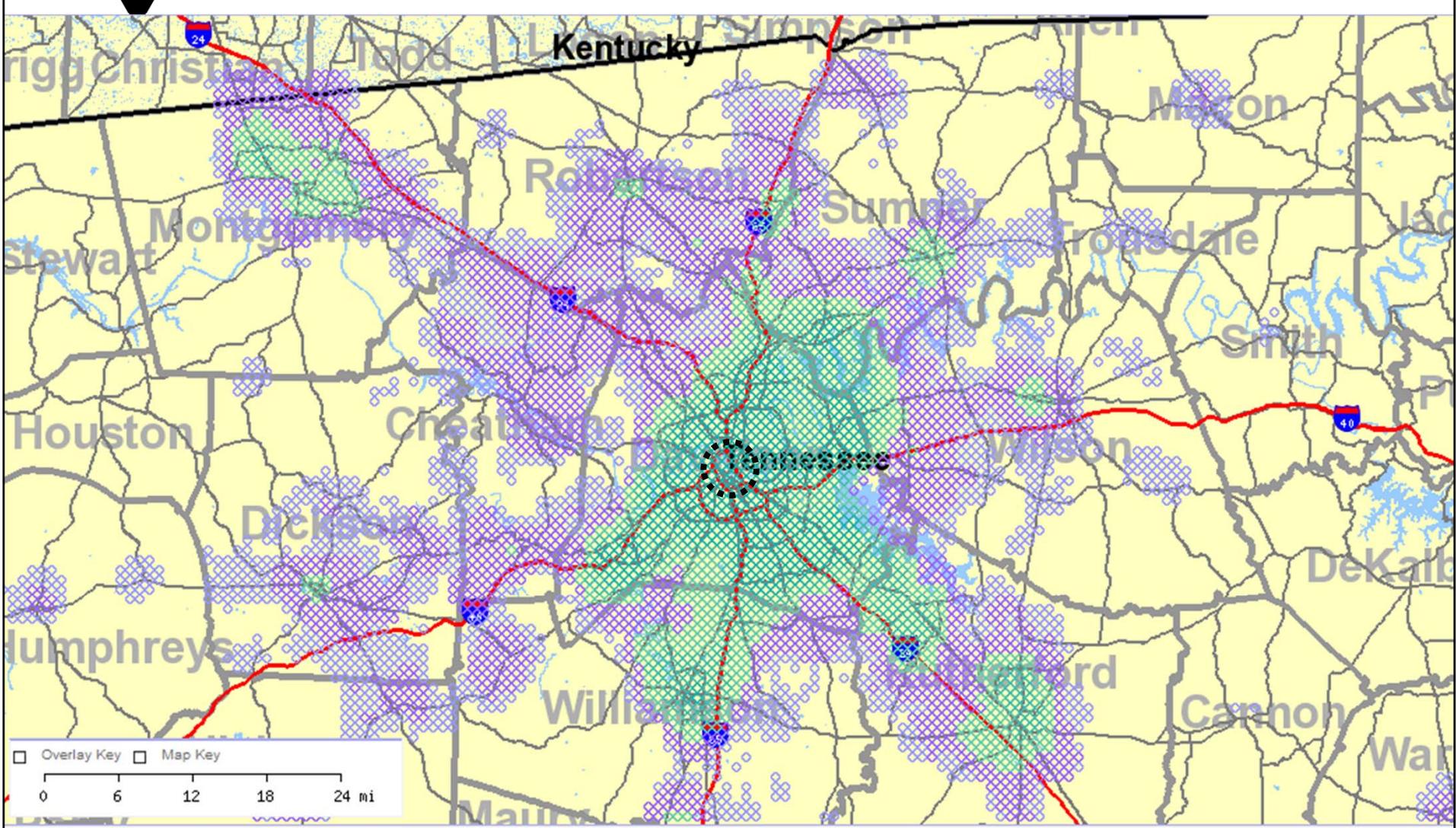
NASHVILLE AREA

Metropolitan Planning Organization

Mass Transit in Middle Tennessee

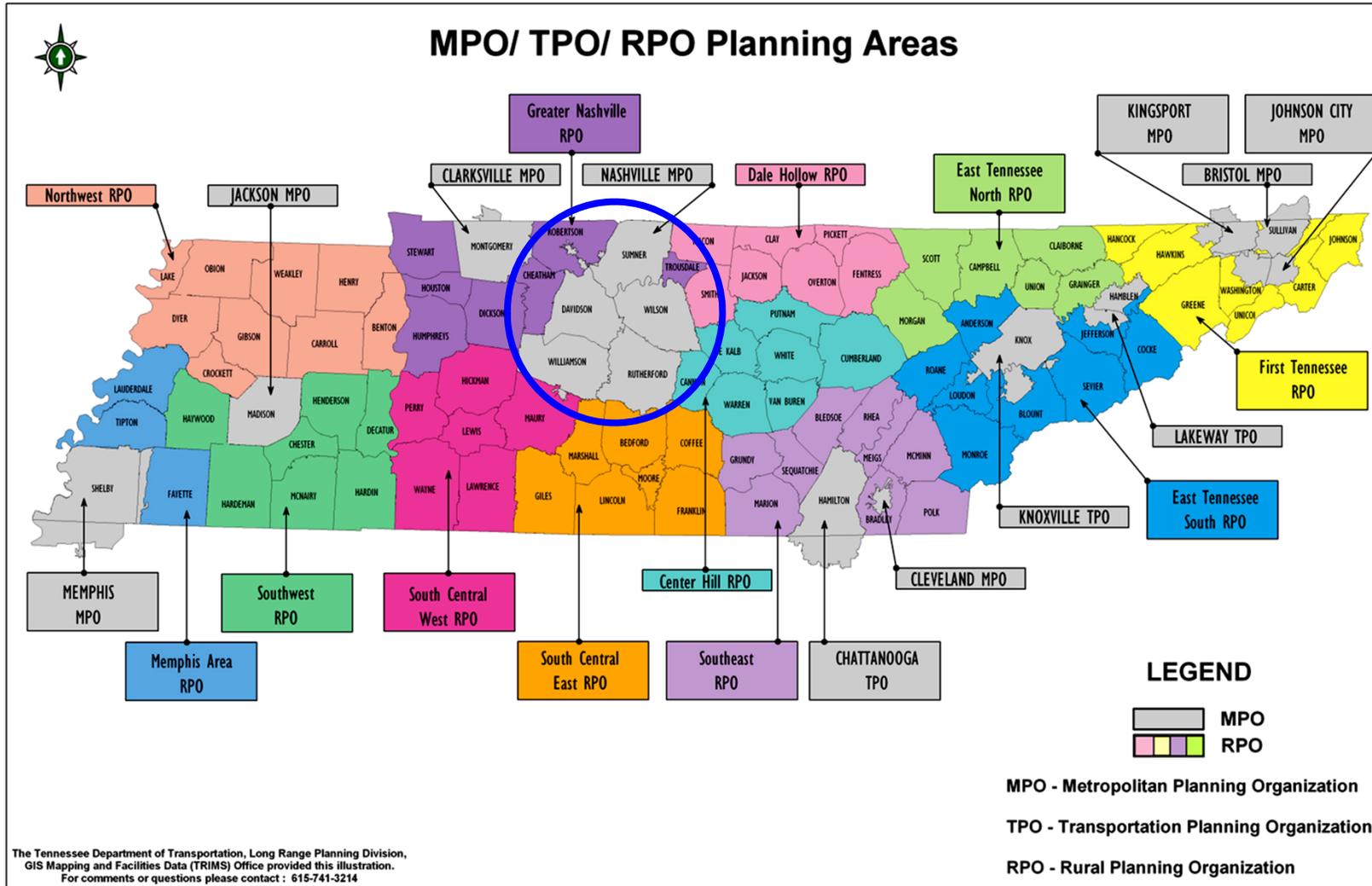
Transit Academy | March 21, 2012

Heavy Cross-County Commuting

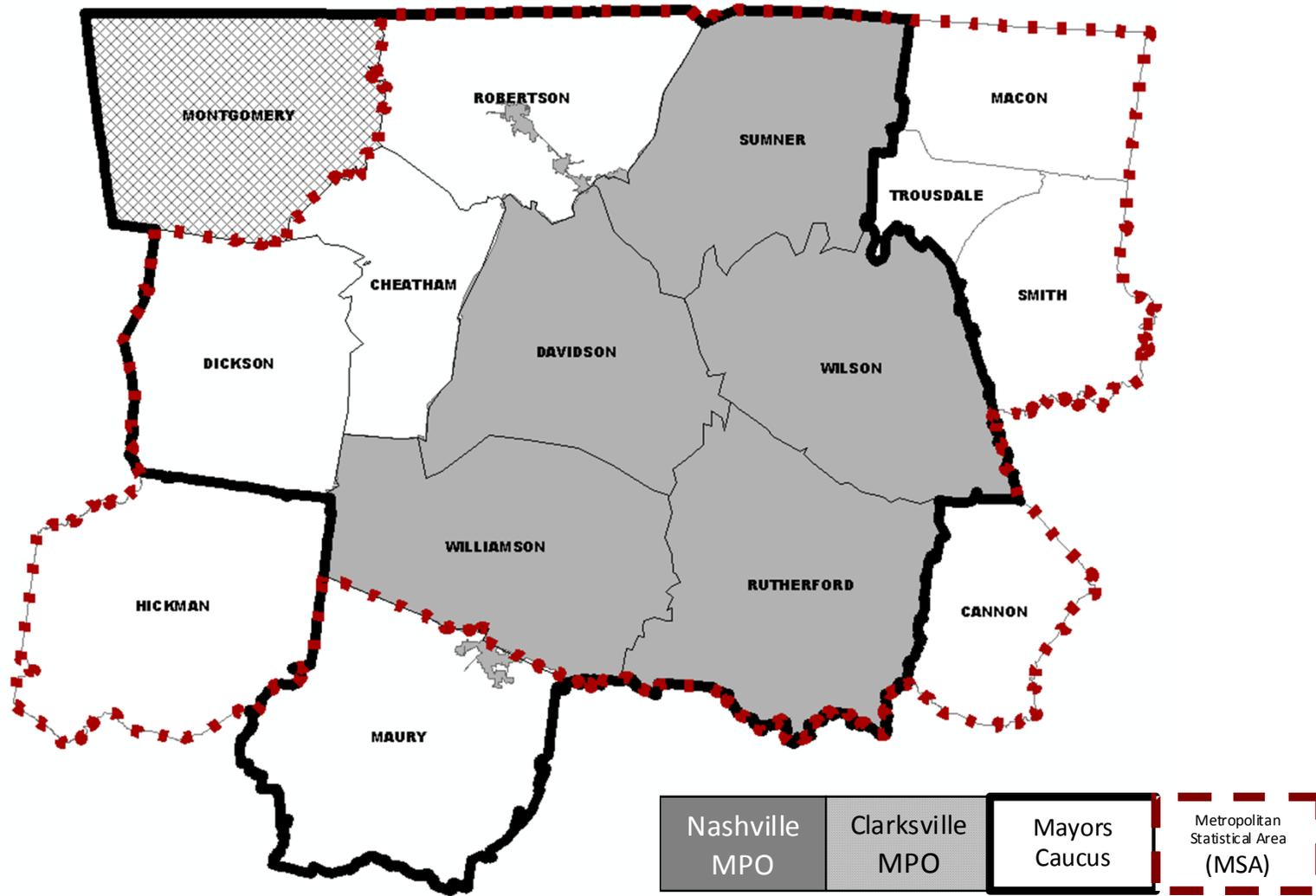


WORK in Downtown Nashville, LIVE in..... nashvillempo.org

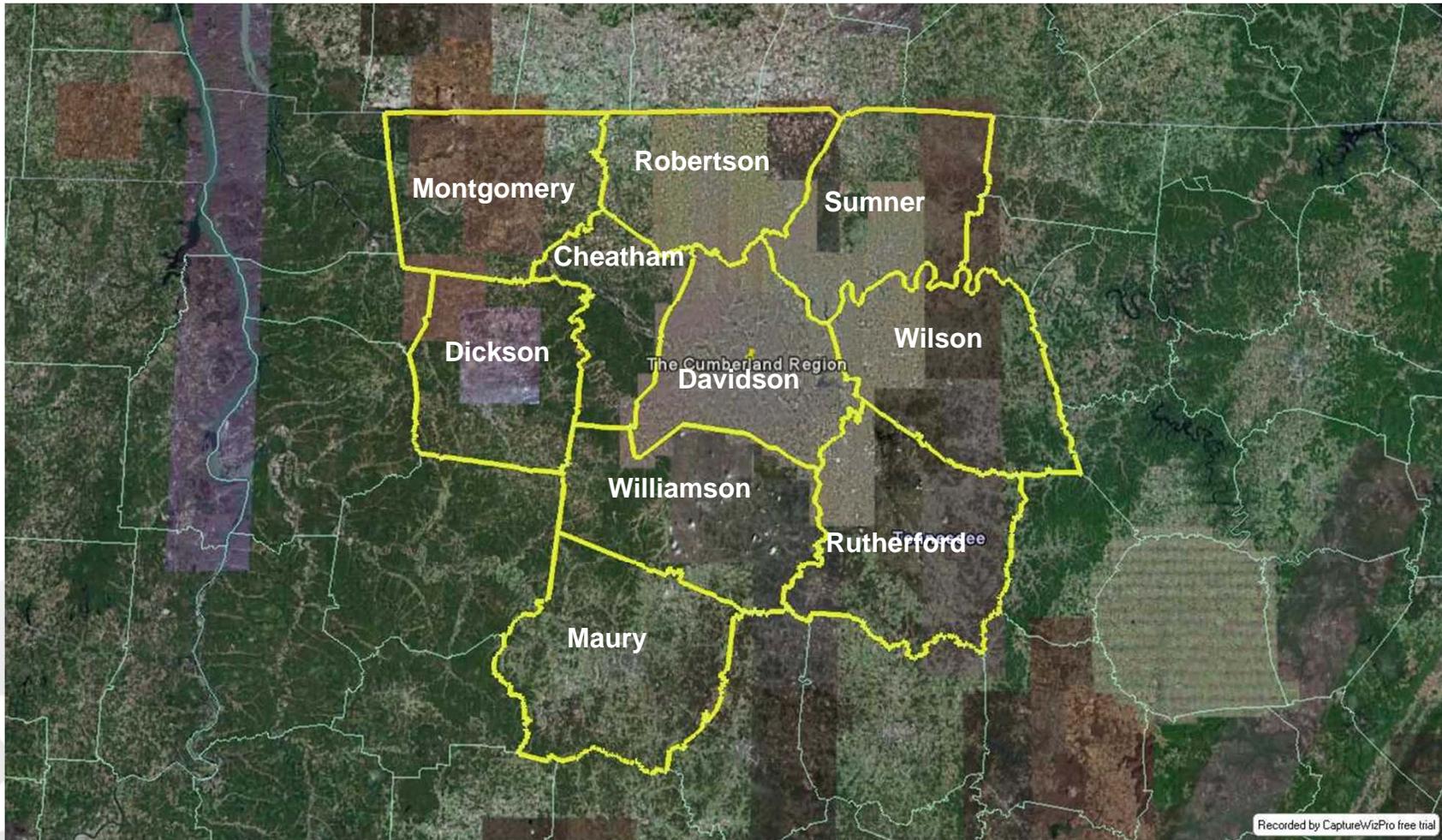
MPOs in Tennessee



Regional Geographies in Middle TN



Middle Tennessee Geography



WHY MASS TRANSIT?

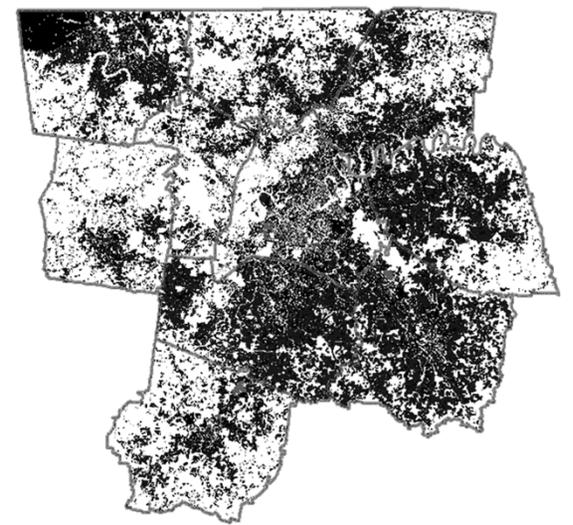
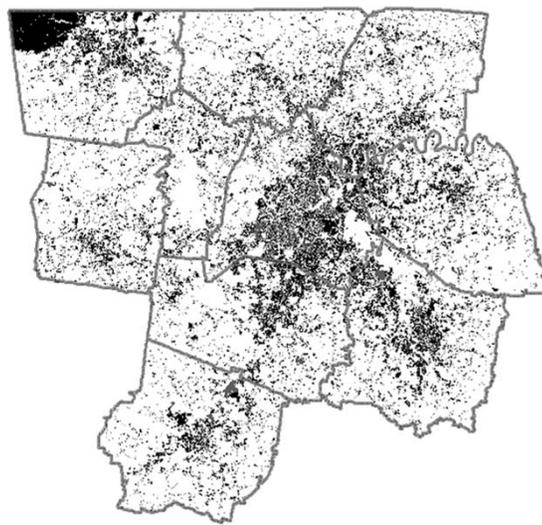
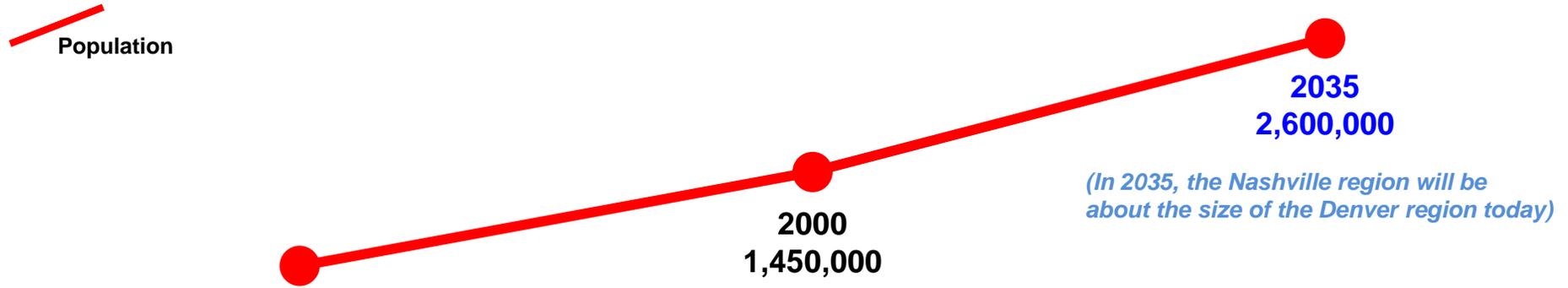
Traffic Congestion, Energy Costs,
Environmental Burden

Changing Demographics &
Market Demand

Quality of Life &
Economic Development Tool

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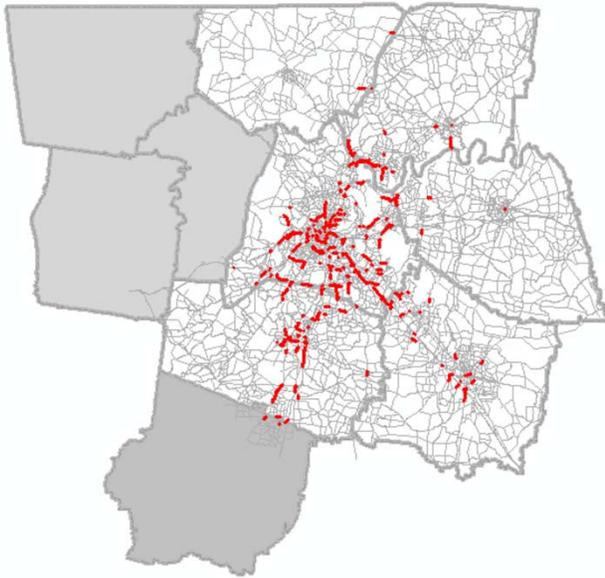
Development Pattern, 1965-2035



■ Properties affected by development

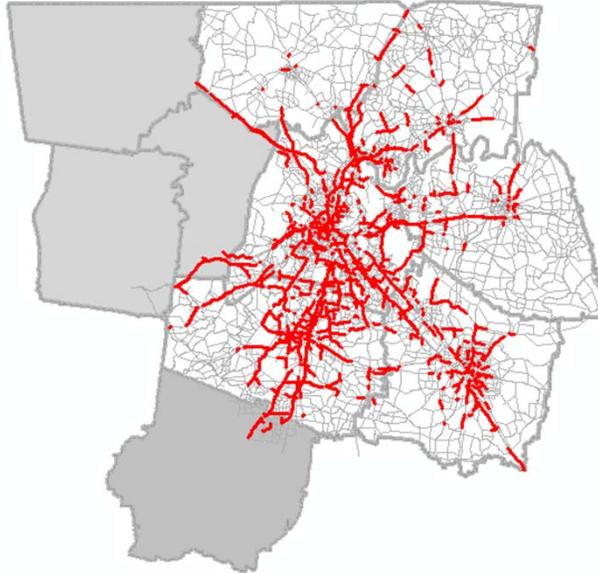
Resiliency in Urban Congestion

TODAY



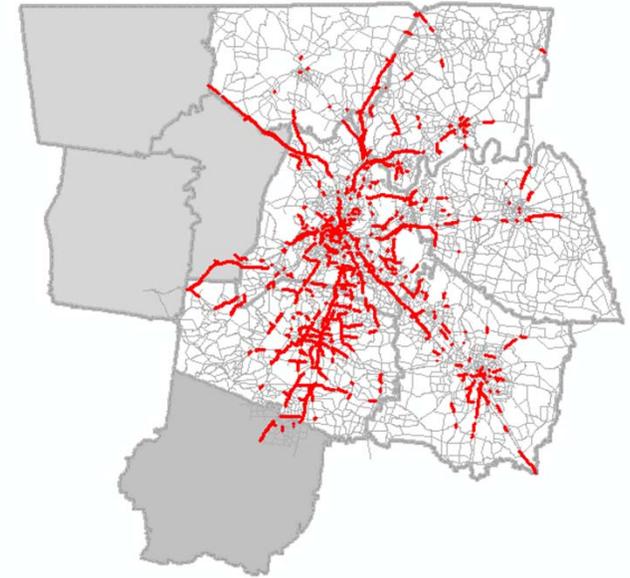
2030

w/ Short-Term Improvements



2030

After Long-Term Improvements

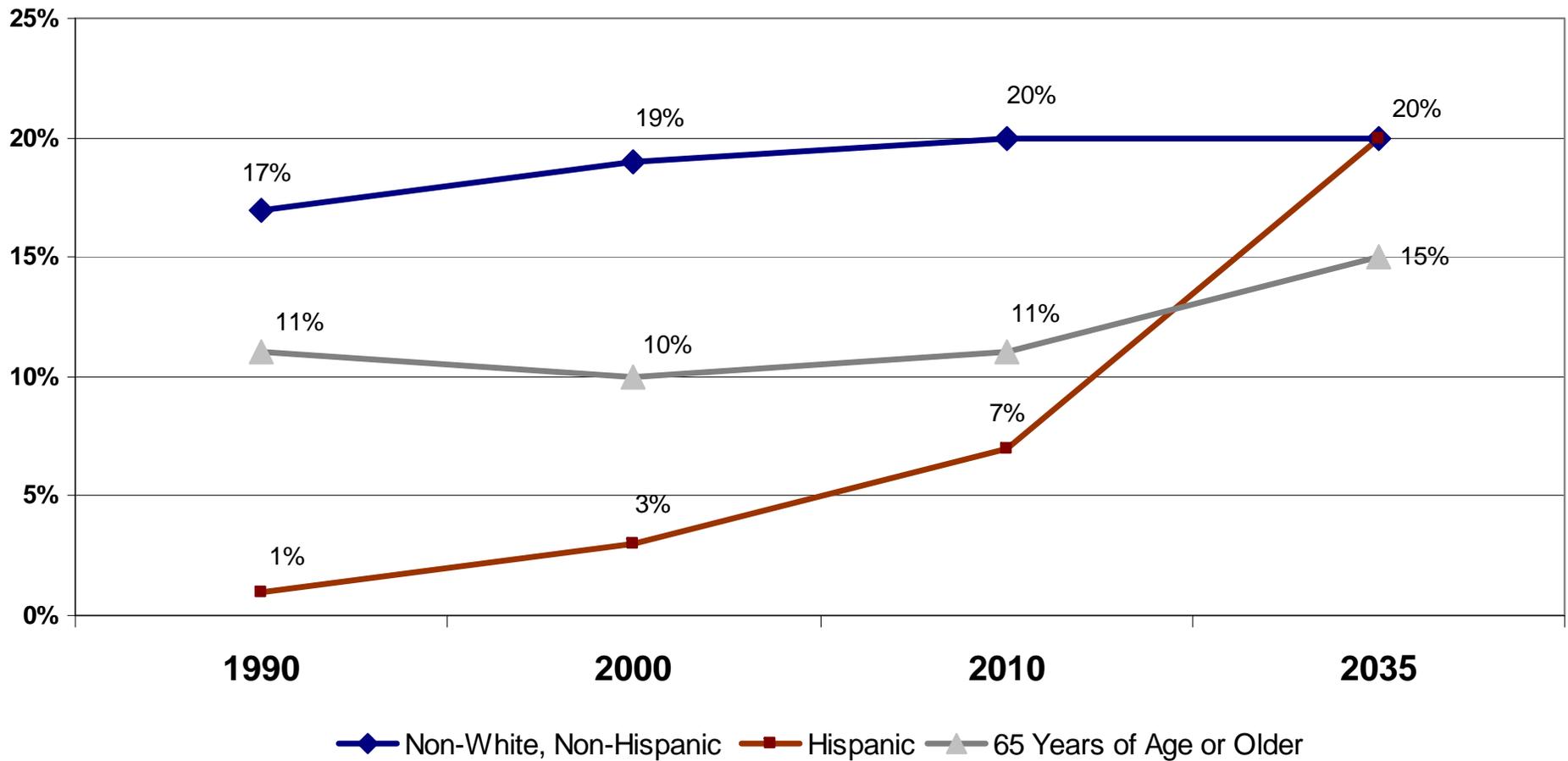


Congestion in Urban Areas Cannot Be Treated with Roadway Capacity Alone.

 Daily Recurring Congestion on Major Roadways.

Increasing Diversity

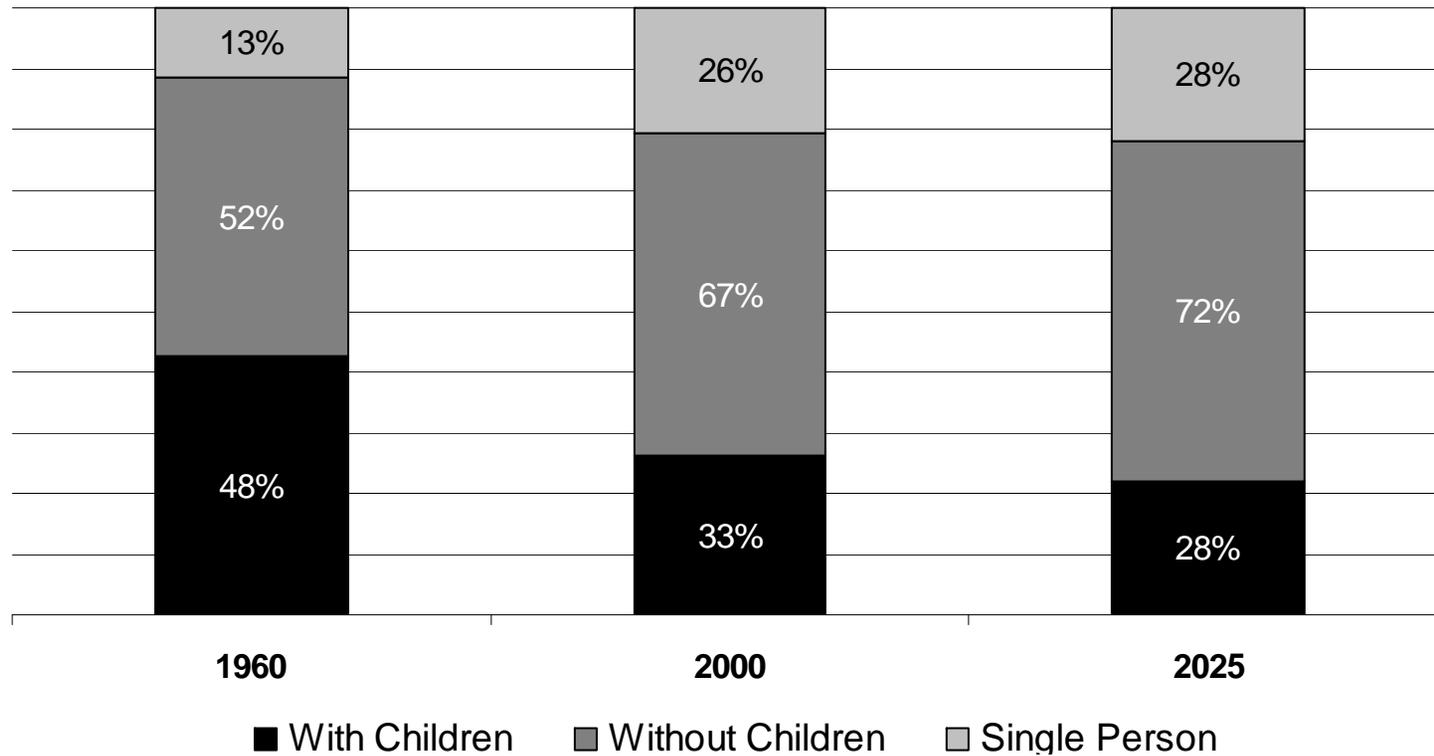
Race, Ethnicity, Age



Source: U.S. Census Bureau, Woods & Poole Economics

Increasing Diversity

Household Composition

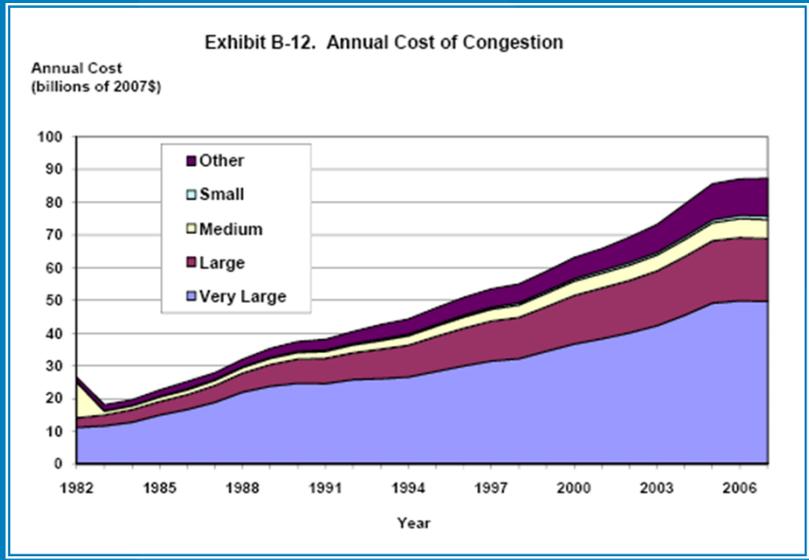


Census for 1960 and 2000, 2025 adapted from Martha Farnsworth Riche, *How Changes in the Nation's Age and Household Structure Will Reshape Housing Demand in the 21st Century*, HUD, 2003.

Texas Transportation Institute (TTI) Urban Mobility Report, 2009

**Nashville-Davidson Urbanized Area
Cost of Congestion (wasted fuel & time):**

\$ 624 Million, Annually
\$ 15.6 Billion, over 25 years



July 2009

URBAN MOBILITY REPORT 2009

The Mobility Data for Nashville-Davidson TN

Inventory Measures	2007	2006	2005	2004	2003	2002
Urban Area Information						
Population (1000s)	905	894	884	874	864	854
Rank	42	42	42	42	42	44
Urban Area (square miles)	750	750	750	750	750	735
Population Density (per sq. mi.)	1,253	1,253	1,253	1,253	1,253	1,224
Peak Traffic	505	505	505	505	505	476

Our Town, 2007 Urban Area Totals

Urban Area	Excess Fuel Consumed (1000 gallons)	Rank	Excess Fuel Consumed (Million Gallons)	Congestion Cost (Million)	Rank
111	111	111	111	111	111
112	112	112	112	112	112
113	113	113	113	113	113
114	114	114	114	114	114
115	115	115	115	115	115
116	116	116	116	116	116
117	117	117	117	117	117
118	118	118	118	118	118
119	119	119	119	119	119
120	120	120	120	120	120
121	121	121	121	121	121
122	122	122	122	122	122
123	123	123	123	123	123
124	124	124	124	124	124
125	125	125	125	125	125
126	126	126	126	126	126
127	127	127	127	127	127
128	128	128	128	128	128
129	129	129	129	129	129
130	130	130	130	130	130
131	131	131	131	131	131
132	132	132	132	132	132
133	133	133	133	133	133
134	134	134	134	134	134
135	135	135	135	135	135
136	136	136	136	136	136
137	137	137	137	137	137
138	138	138	138	138	138
139	139	139	139	139	139
140	140	140	140	140	140
141	141	141	141	141	141
142	142	142	142	142	142
143	143	143	143	143	143
144	144	144	144	144	144
145	145	145	145	145	145
146	146	146	146	146	146
147	147	147	147	147	147
148	148	148	148	148	148
149	149	149	149	149	149
150	150	150	150	150	150

ACCORDING TO THE UMR, THINGS WORSE IN CHICAGO THAN IN CHARLOTTE

A COMPARISON OF CHARLOTTE AND CHICAGO

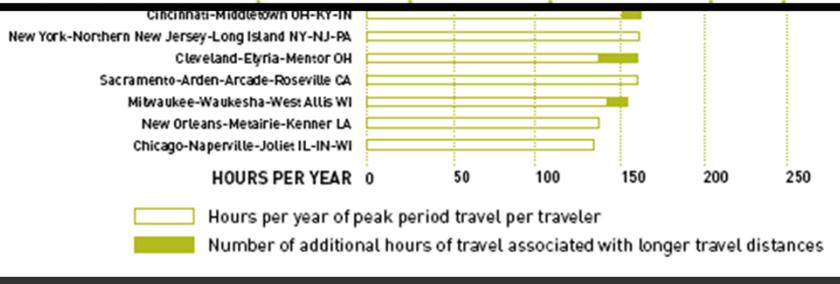
PEAK PERIOD TRAVEL TIMES



DRIVEN APART VS. UMR

	DRIVEN APART: RANK BY TOTAL PEAK TRAVEL TIME	UMR: RANK BY ESTIMATED HOURS OF CONGESTION	DIFFERENCE IN RANKS							
			UMR UNDERSTATES HOURS OF TRAVEL (NEGATIVE VALUES)				UMR OVERSTATES HOURS OF TRAVEL (POSITIVE VALUES)			
			-40	-30	-20	-10	0	10	20	30
Nashville-Davidson-Murfreesboro-Franklin TN	1	31	-30							
Oklahoma City OK	2	38	-36							
Birmingham-Hoover AL	3	34	-31							
Richmond VA	4	44	-40							
Raleigh-Cary NC	5	33	-28							
Memphis TN-MS-AR	6	41	-35							
Detroit-Warren-Livonia MI	7	9	-2							
Orlando-Kissimmee FL	8	6	2							
Kansas City MO-KS	9	47	-38							
Louisville/Jefferson County KY-IN	10	28	-18							
St. Louis MO-IL	11	40	-29							

CHARLOTTE 1.25



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 funded by the Rockefeller Foundation
 October 2010

CEOs FOR CITIES

Source: Driven Apart (CEO for Cities)

Transportation Costs, % Income

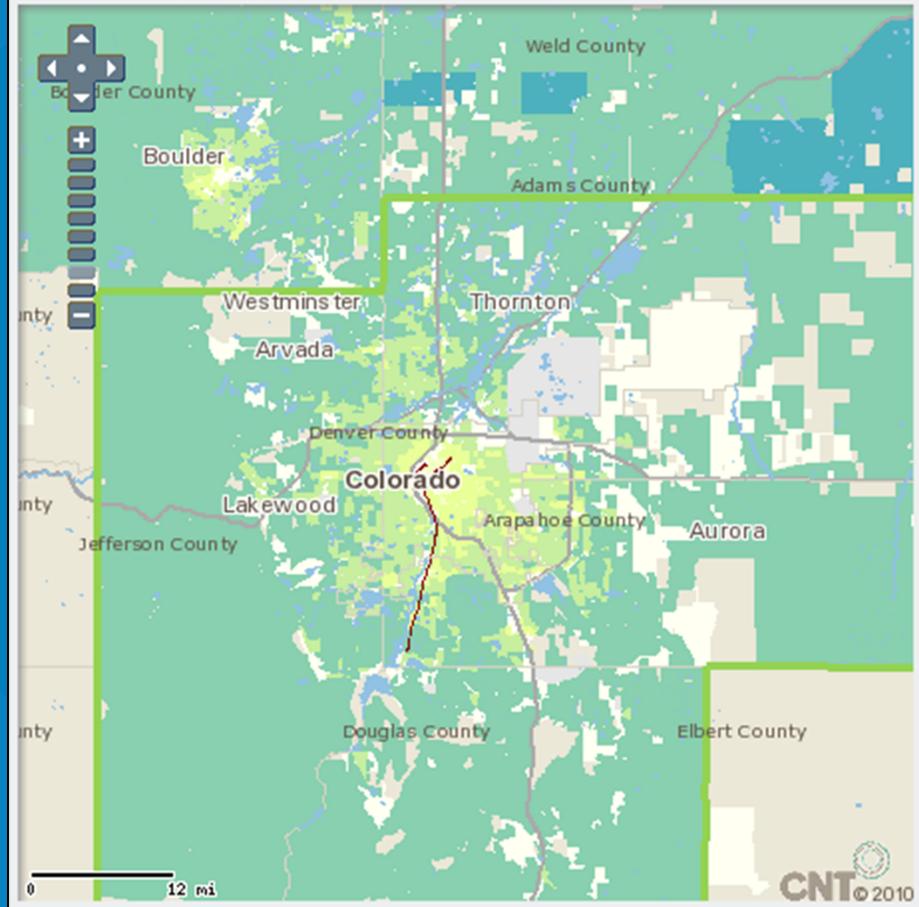
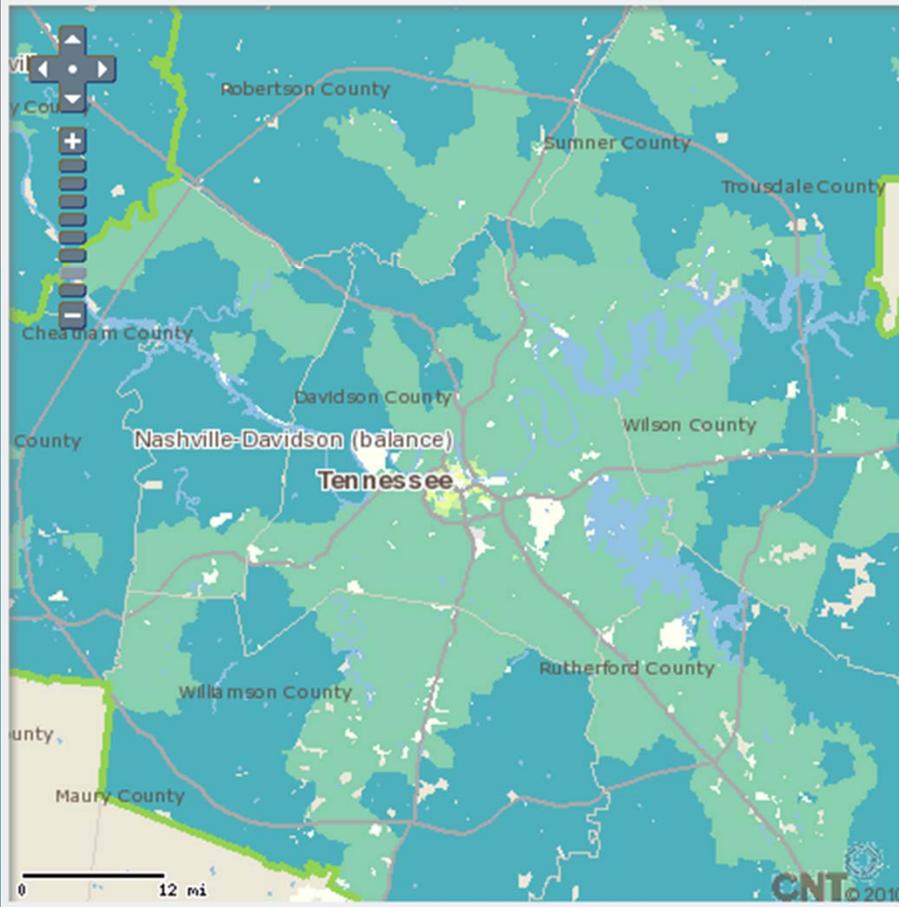
Change

Criteria	Households	Percent of Households
No Data Available	0	0%
Less than 15%		0%
15 to 18%	8,352	1.7%
18 to 20%	10,927	2.2%
20 to 28%	389,765	79.7%
28% and Greater	79,885	16.3%
Map Total	488,929	100%

Transportation Costs, % Income

Change

Criteria	Households	Percent of Households
No Data Available	373	0%
Less than 15%	26,917	2.9%
15 to 18%	157,387	16.8%
18 to 20%	358,988	38.2%
20 to 28%	394,162	42%
28% and Greater	912	0.1%
Map Total	938,739	100%



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Tennessee Grades for Obesity

- ➔ 1st – adult inactivity
- ➔ 2nd highest overweight
- ➔ 3rd highest obese (32.8% of adults)
- ➔ 4th highest extreme obesity
- ➔ 5th highest – overweight or obese children ages 10-17 (36.5%)



Shifting Policy

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U.S. DOT Responding to Public Demand

“I have traveled all over this country...and everywhere I go, people want **better options**. Options that offer reduced greenhouse-gas emissions. Options that offer reduced fuel-consumption. Options that offer **better health**. Options that bring communities together. Now, let me make this absolutely clear: I never said we would stop repairing, maintaining, and –yes– even expanding roadways. I said only that it's time to **stop assuming that putting more cars on more roads is the best way to move people around more effectively.**”

– U.S. DOT Secretary Ray LaHood



Transit a Preferred Solution

Transportation for America

Preference to Reduce Traffic Congestion

Future of Transportation National Survey



(National telephone survey of 800 registered voters: 700 landline interviews & 100 cell phone interviews.)

MPO Area Public Opinions

- ➔ Three strategies provided for improving transportation in Middle Tennessee; respondents then asked to prioritize—
 - **1st choice:** improve and expand mass transit options
 - **2nd choice:** make communities more walkable & bike-friendly
 - **3rd choice:** build new or widen existing roadways

Nashville Area Metropolitan Planning Organization

2035
NASHVILLE AREA
Regional Transportation Plan



Respectfully prepared for the citizens of the Nashville region by the:
Nashville Area Metropolitan Planning Organization
800 Second Avenue South
Nashville, Tennessee 37201
Phone: (615) 862-7204 Fax: (615) 862-7209

#1

A Bold, New Vision
for Mass Transit

#2

Support for Active
Transportation & Walkable
Communities

#3

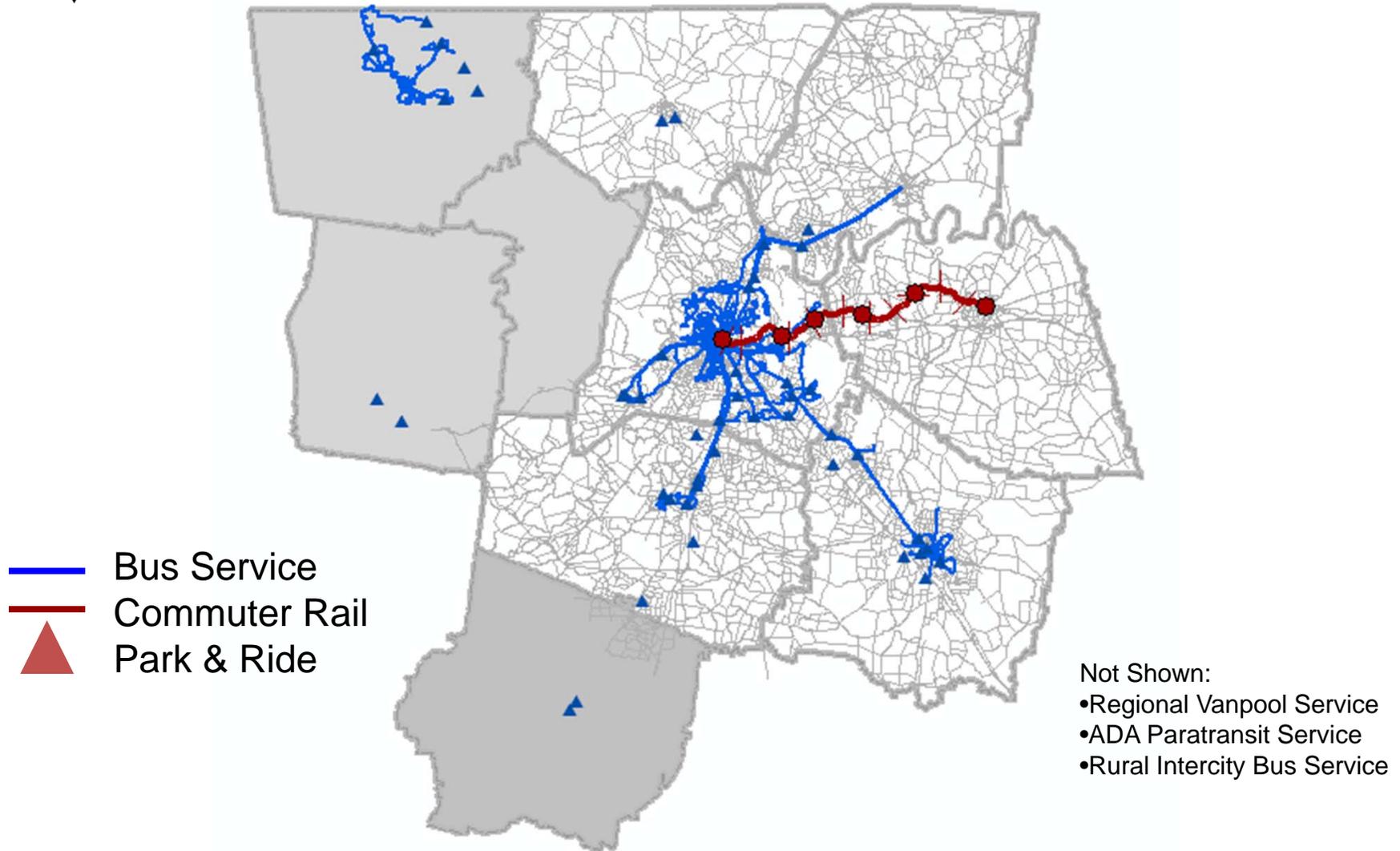
Preservation &
Enhancement of Strategic
Roadways

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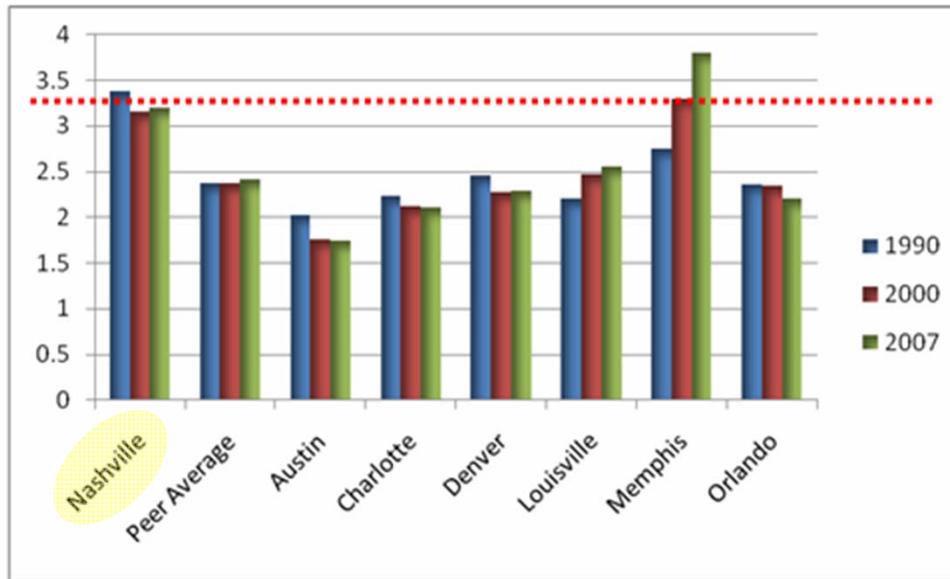
Bold, New Vision for Mass Transit

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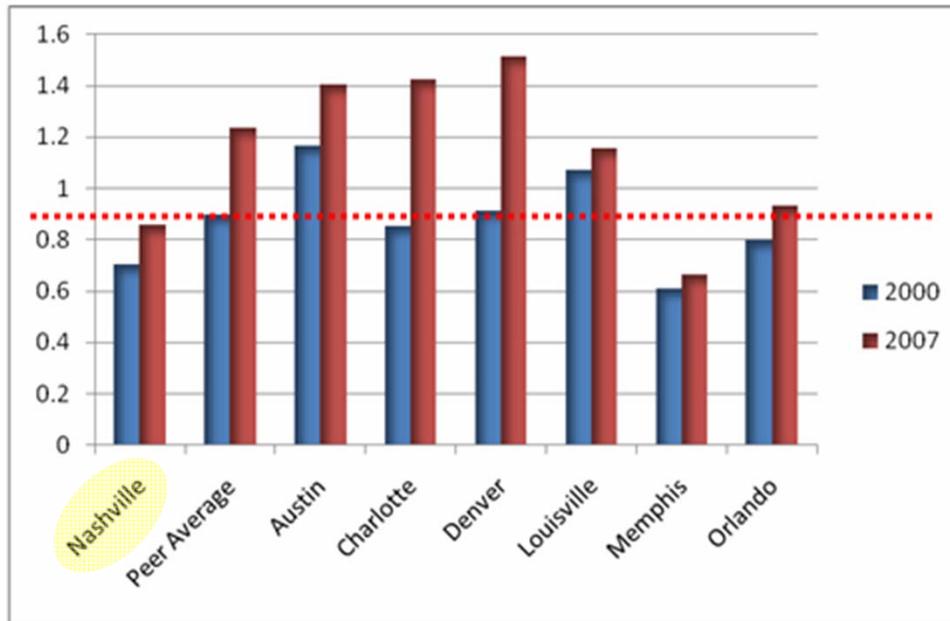
Existing Services



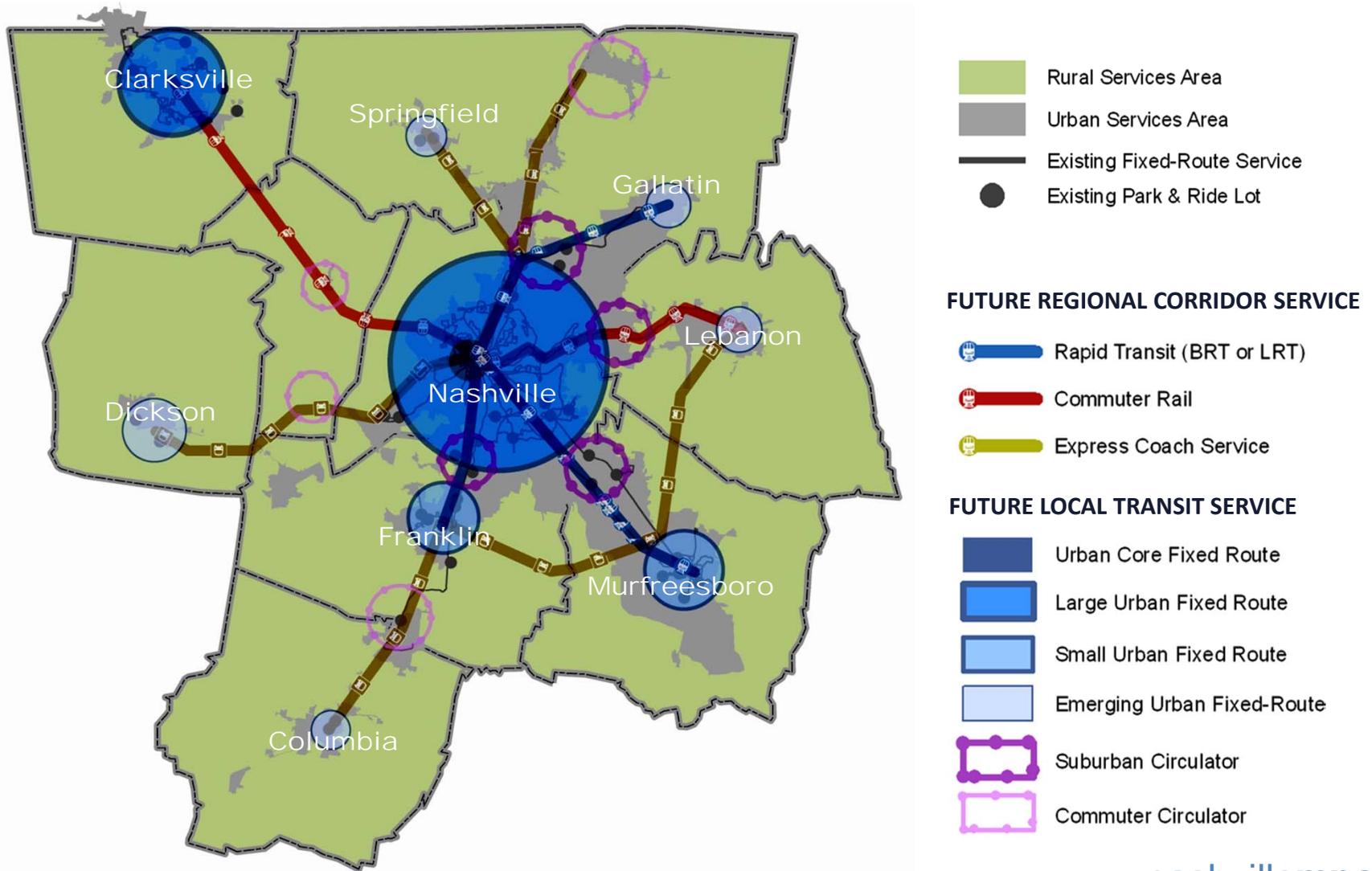
Roadway Lane Miles per 1000 People



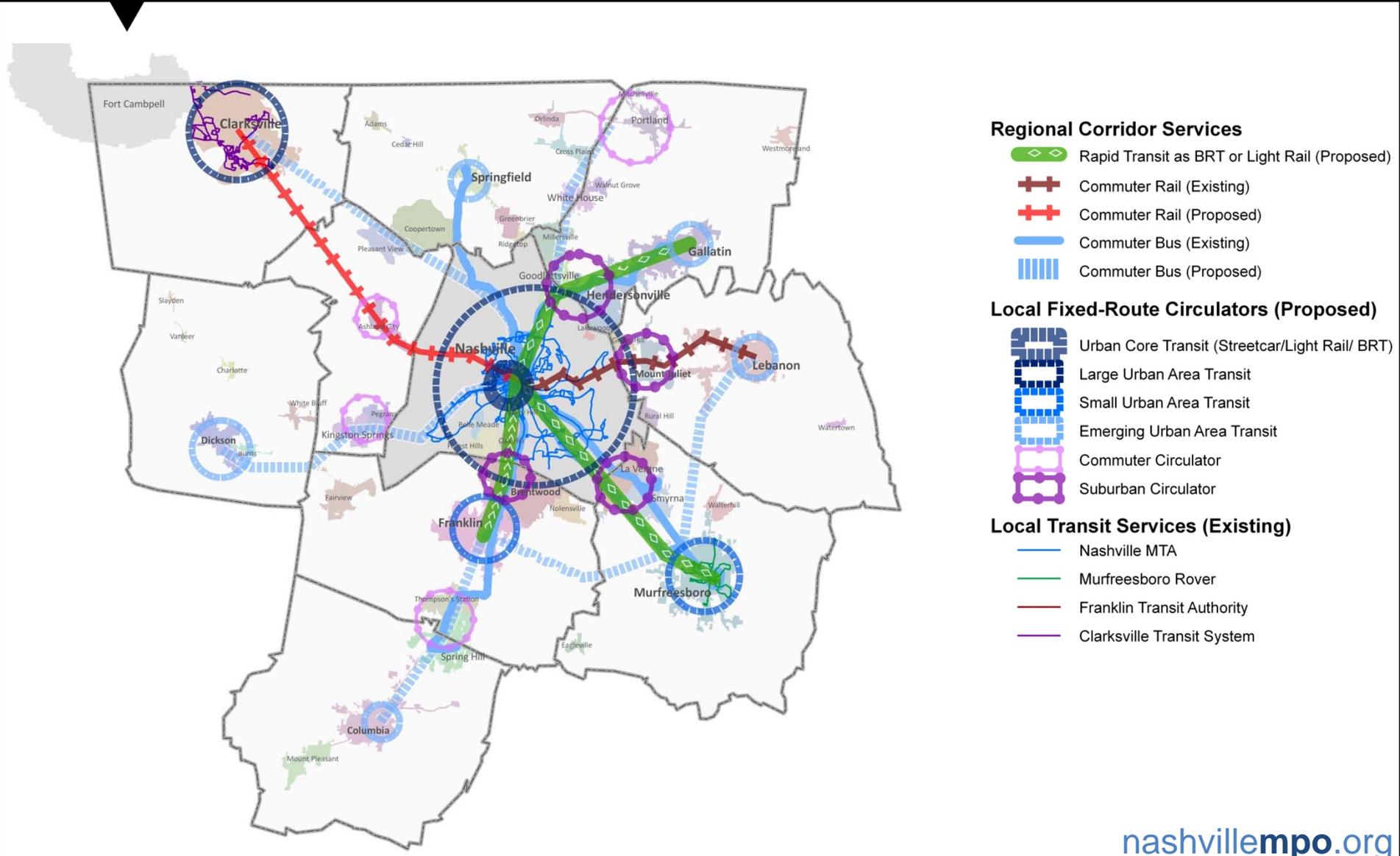
Transit Revenue Hours per Person/ Year



A Bold, New Vision for Mass Transit



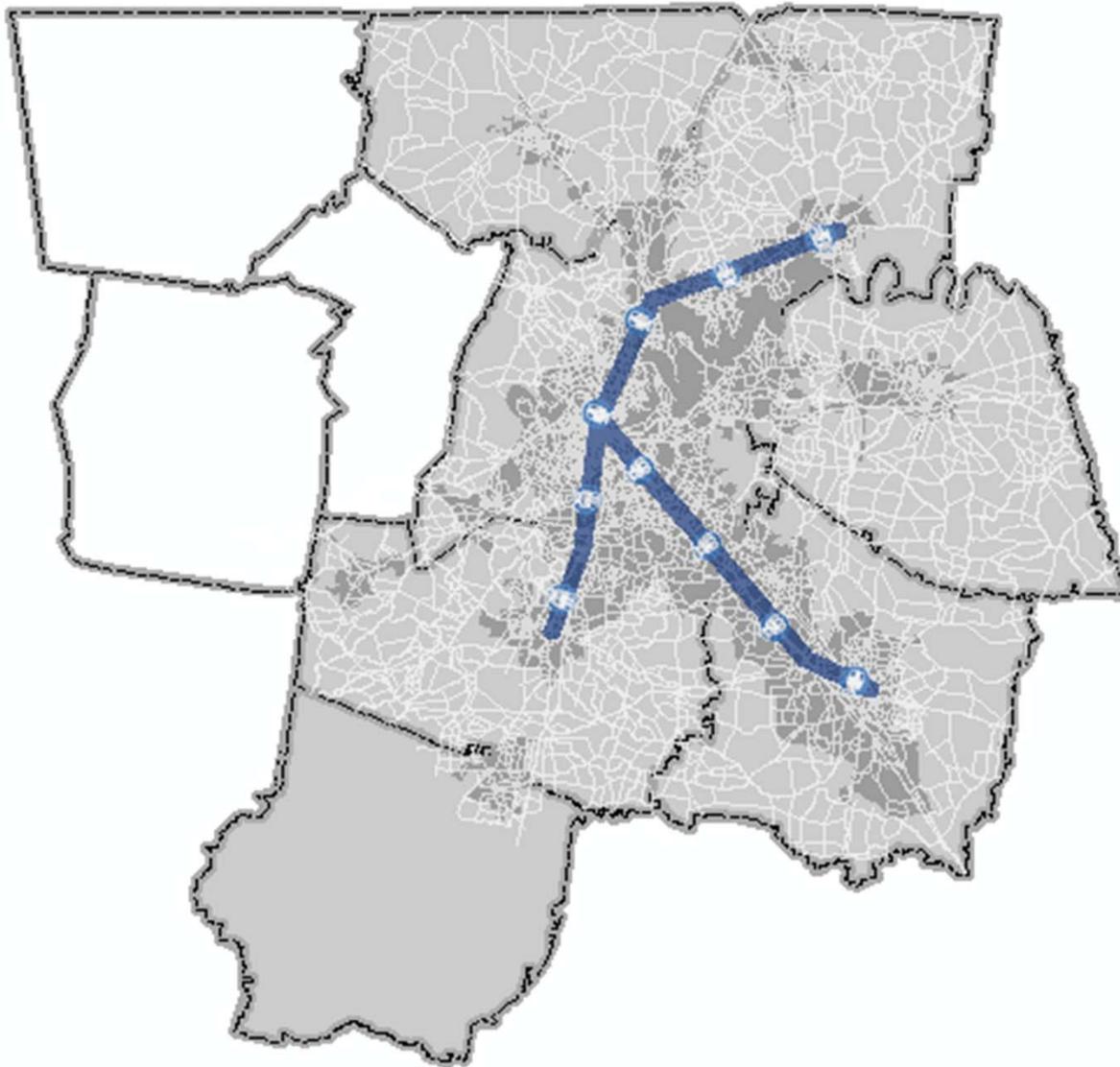
Regional Transit – Existing & Proposed



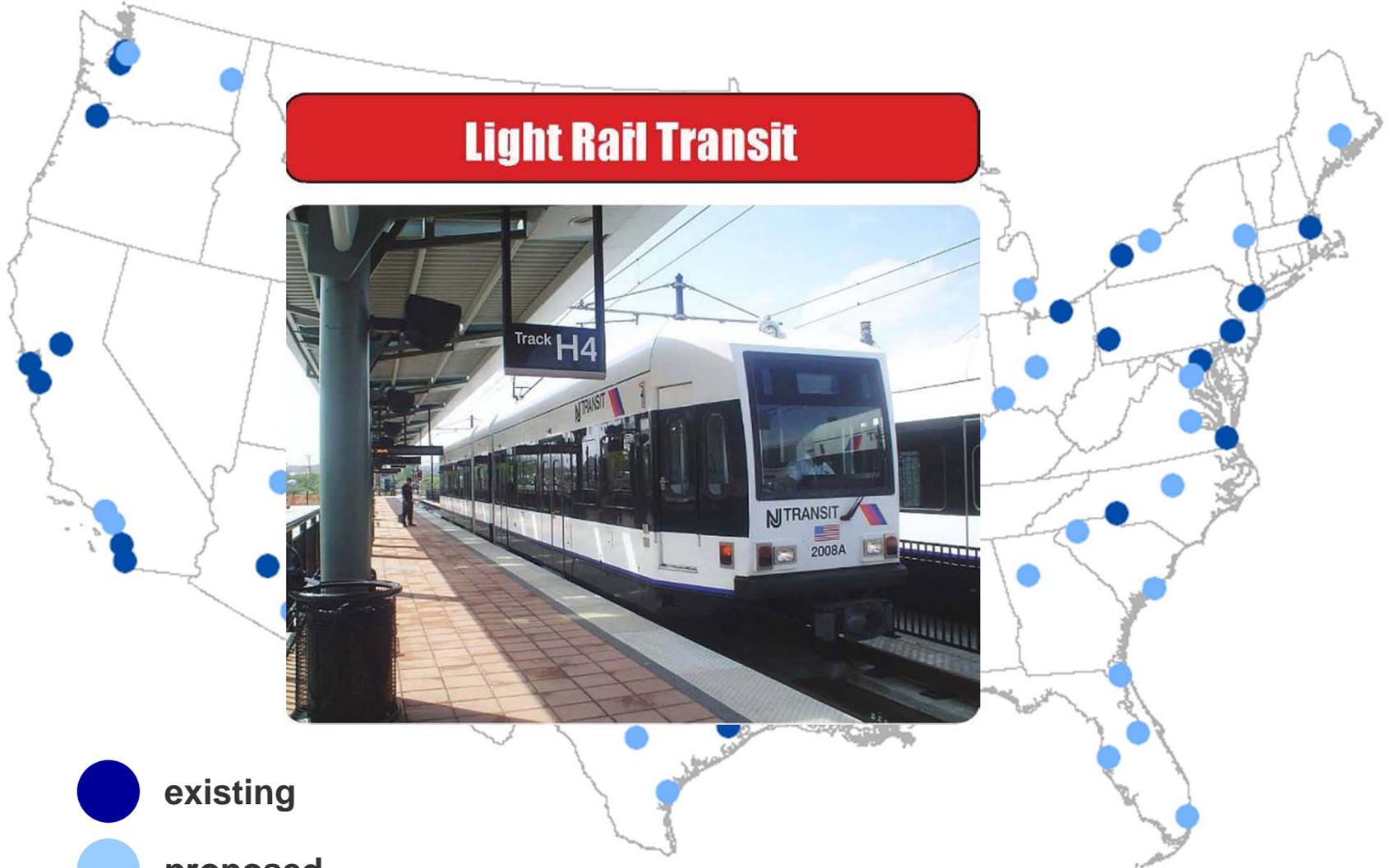
Rapid Transit Corridors

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Rapid Transit Corridors



Light Rail Transit Alternative



- existing
- proposed

Source: American Public Transportation Association
Mapping: Nashville Area MPO (2007)

Rapid *Rail* Transit – Peers



Bus Rapid Transit Alternative

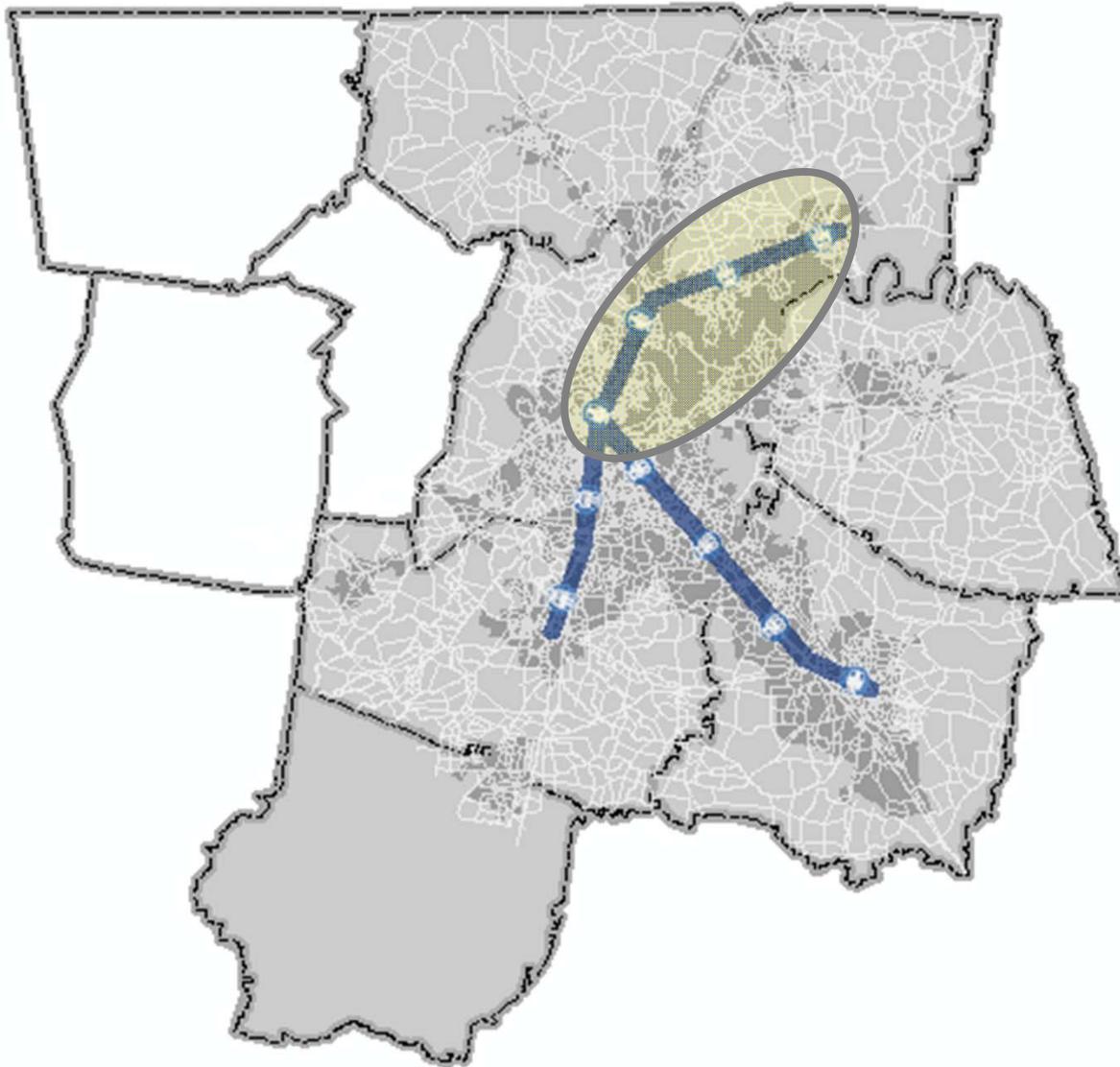
Dedicated Lane BRT



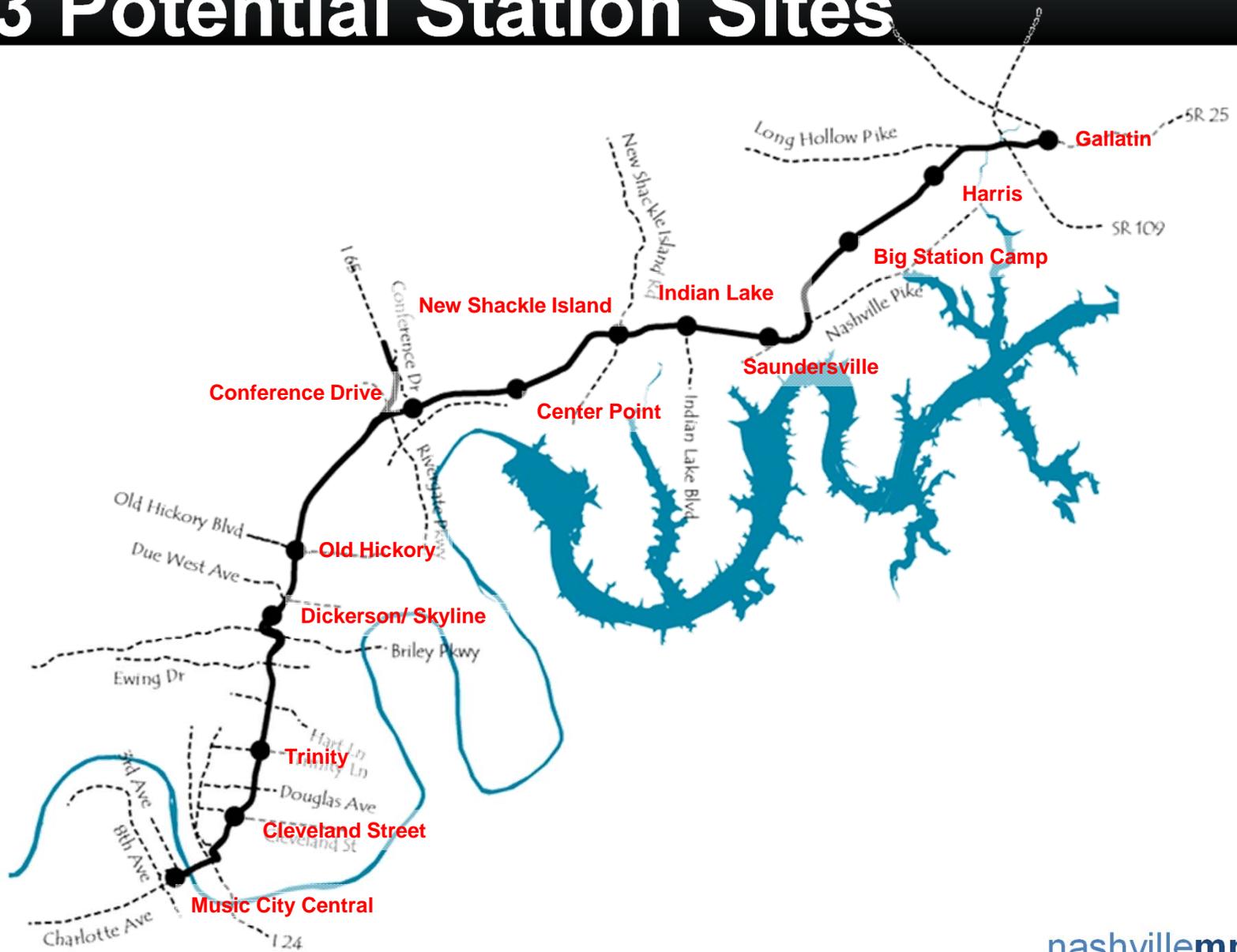
BUS Rapid Transit – Peers



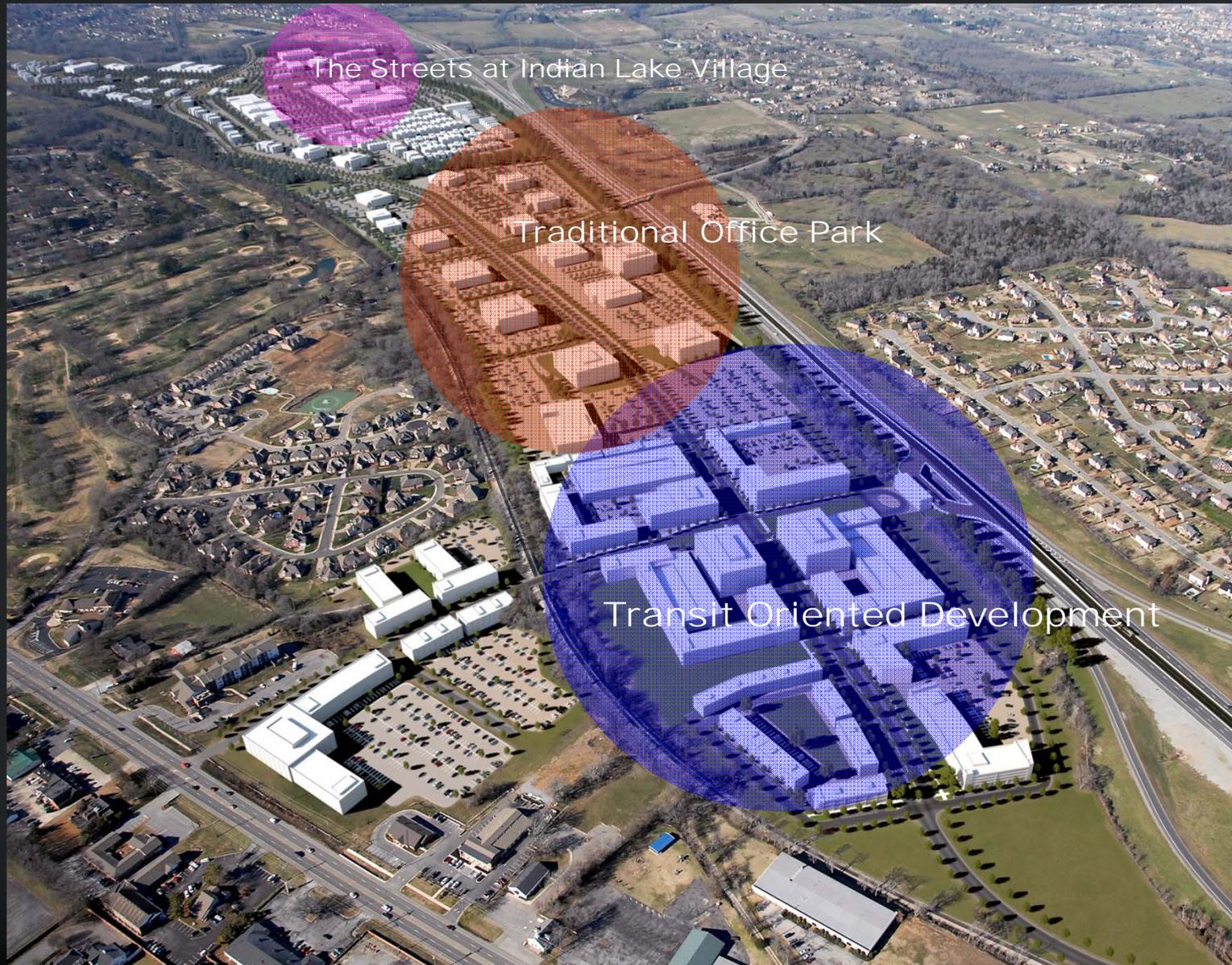
Regional Rapid Transit Corridors



NE Corridor Mobility Study: 13 Potential Station Sites



Saundersville Station



The Streets at Indian Lake Village

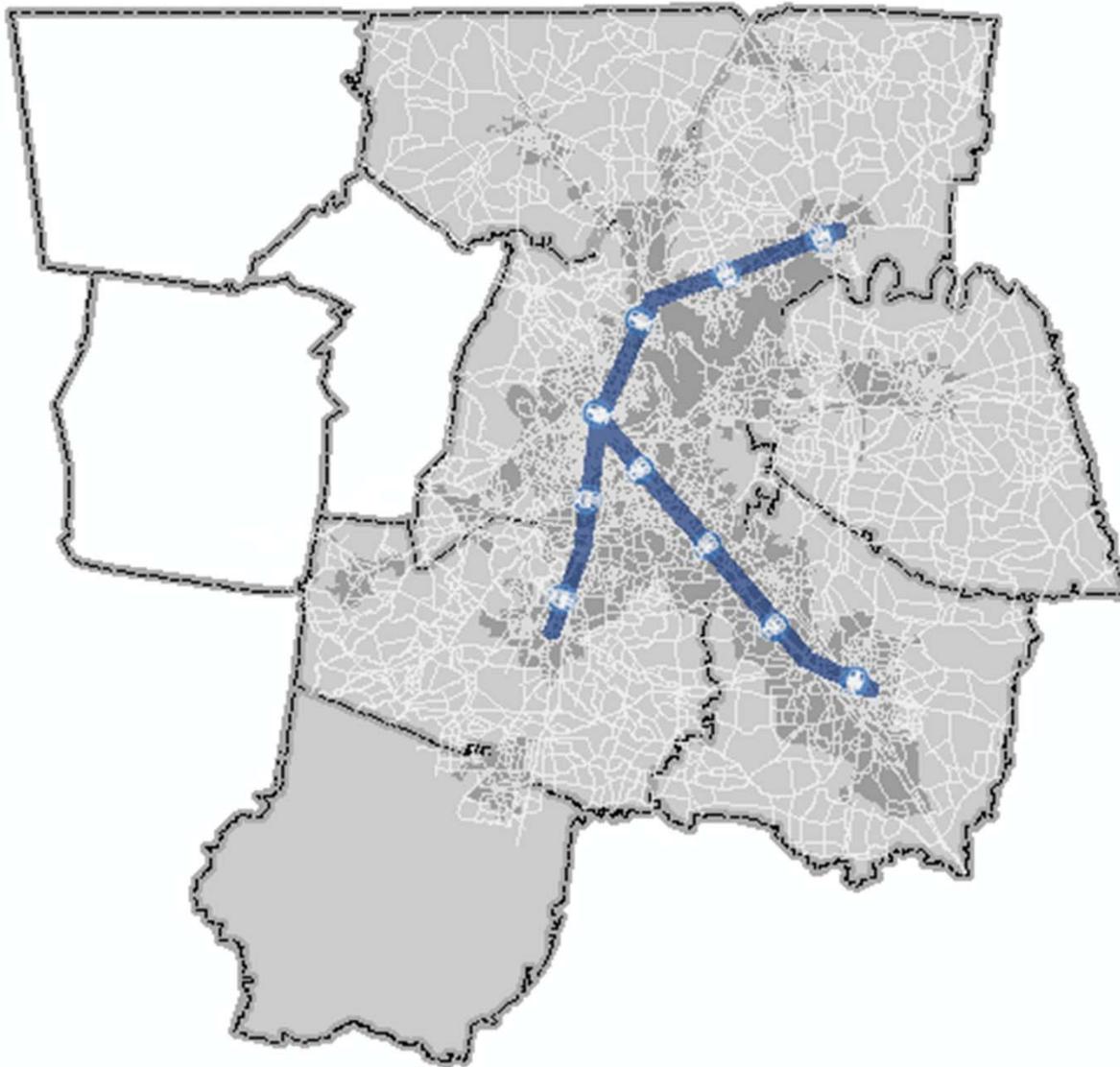
Traditional Office Park

Transit Oriented Development

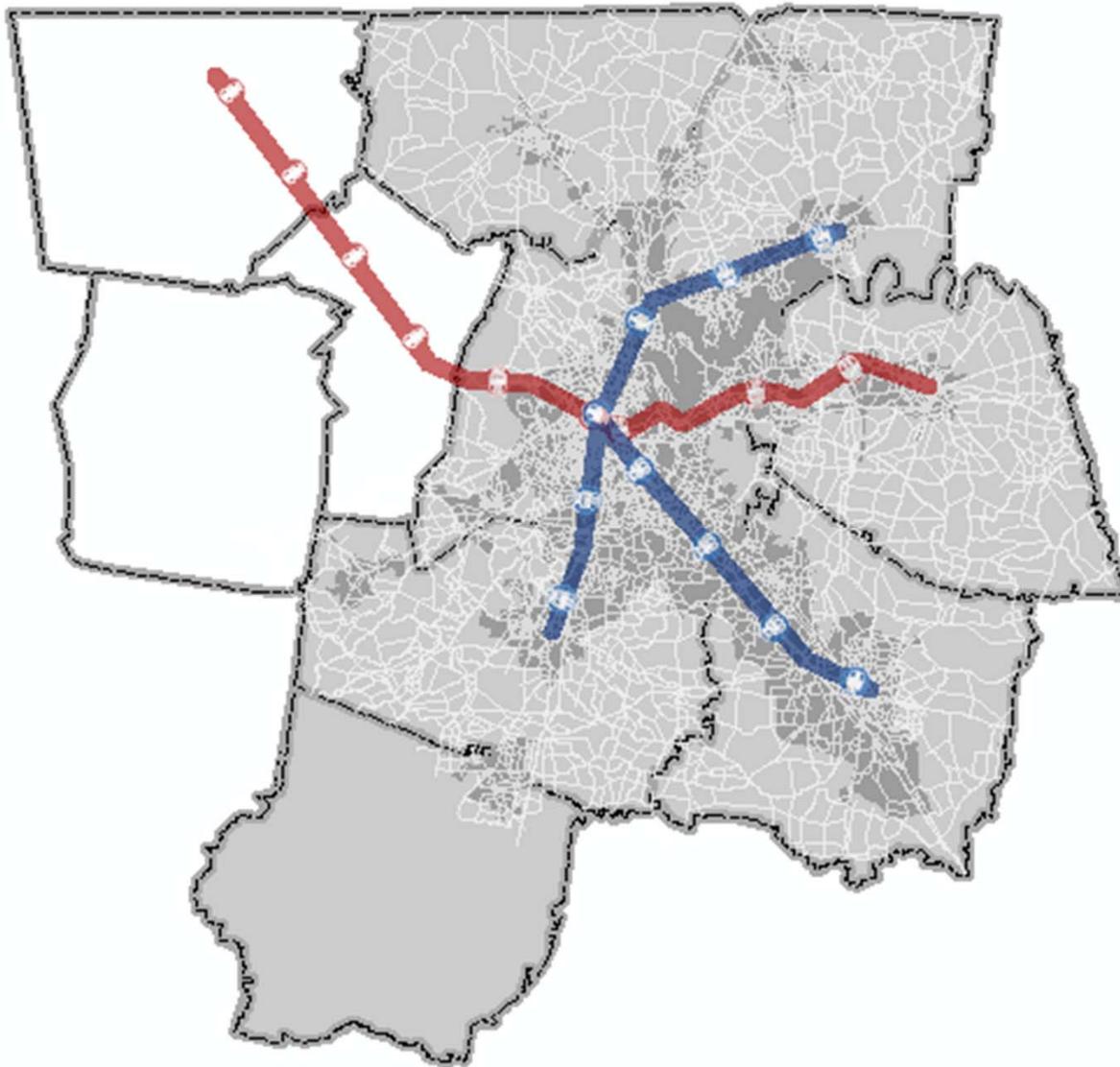
Saundersville Station



Rapid Transit Corridors



Regional Commuter Rail Corridors



Commuter Rail Transit Alternative

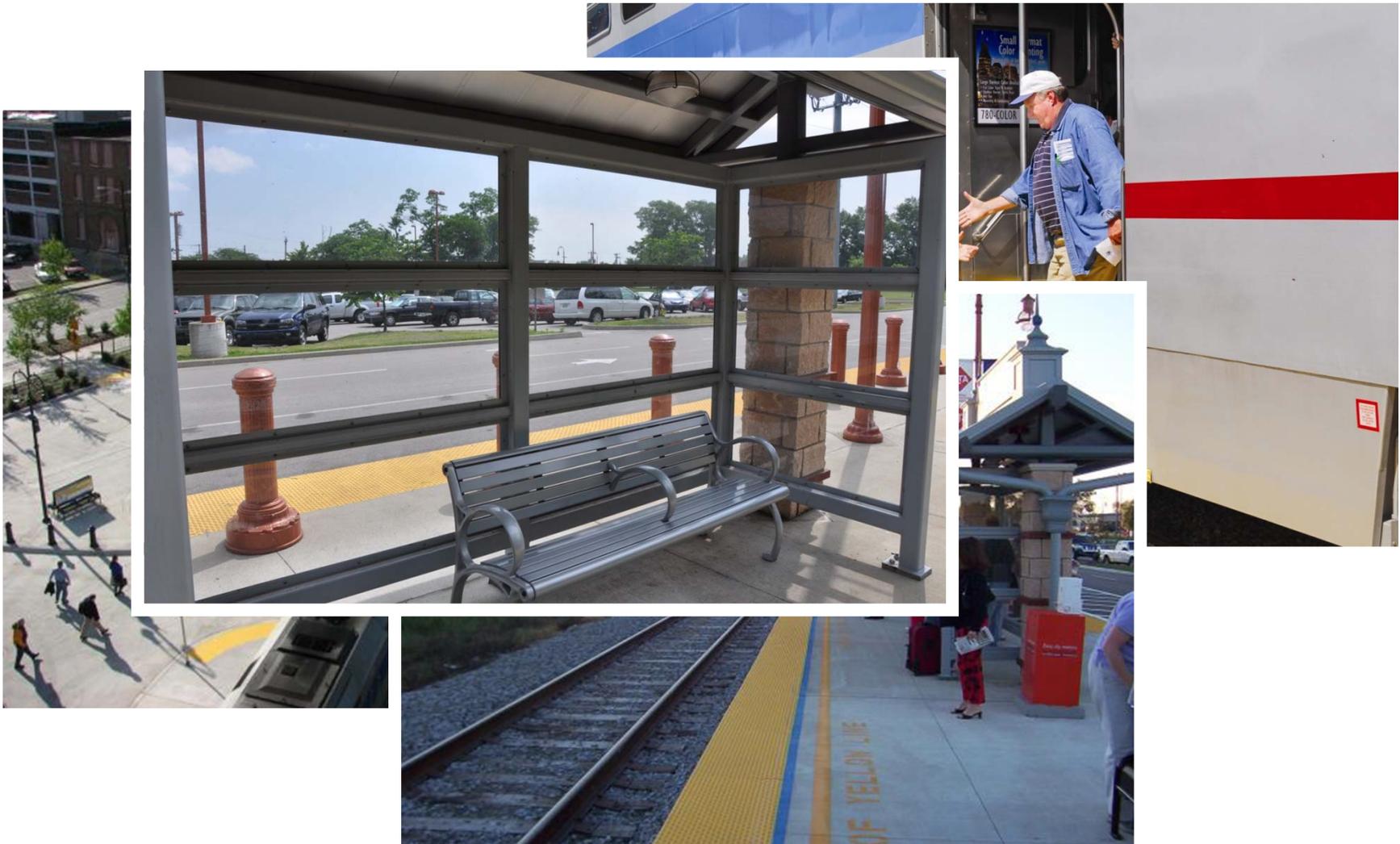
Commuter Rail Transit



-  existing
-  proposed

Source: American Public Transportation Association
Mapping: Nashville Area MPO (2007)

Regional Commuter Rail Corridors



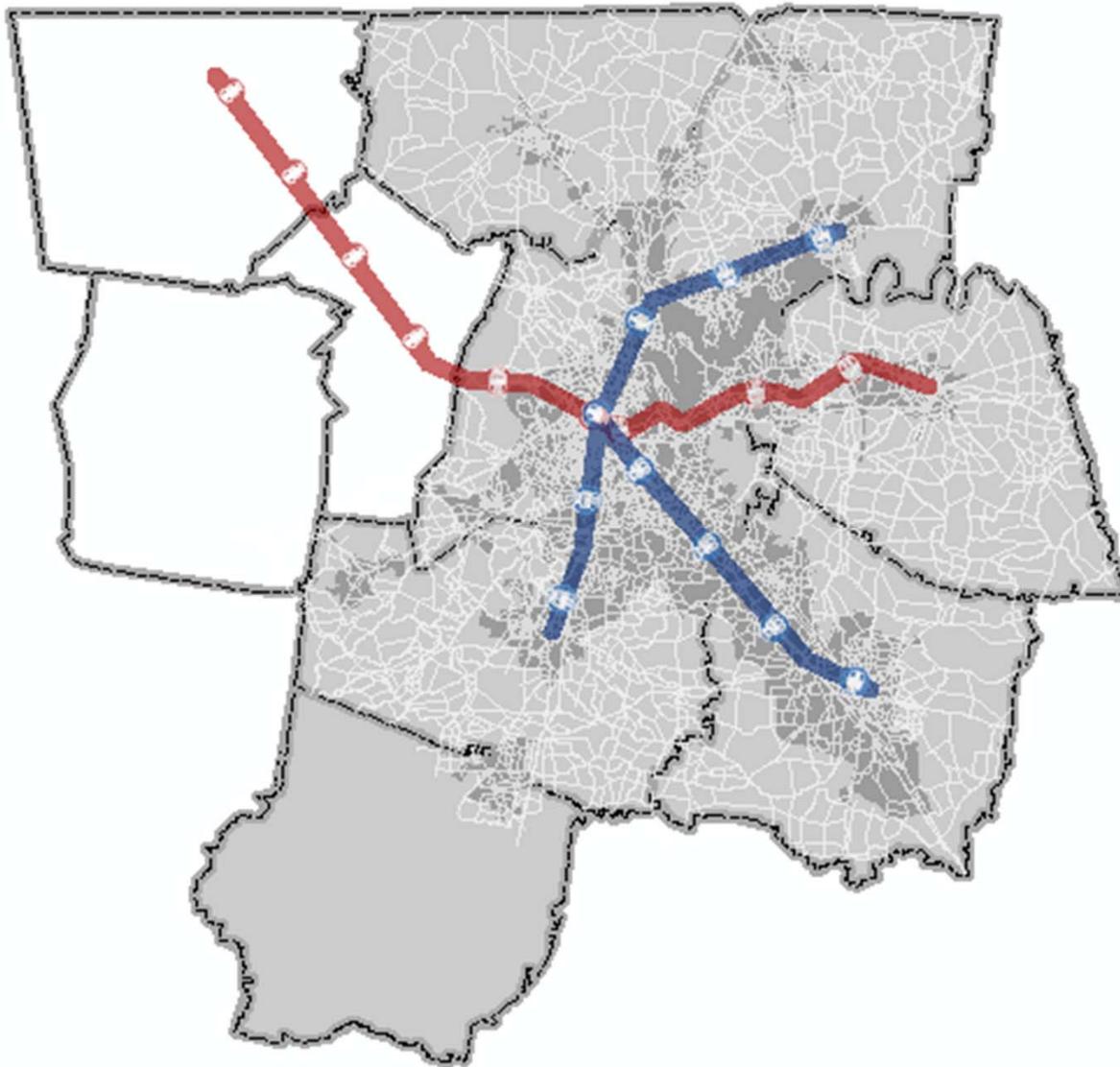
Regional Commuter Rail Corridors



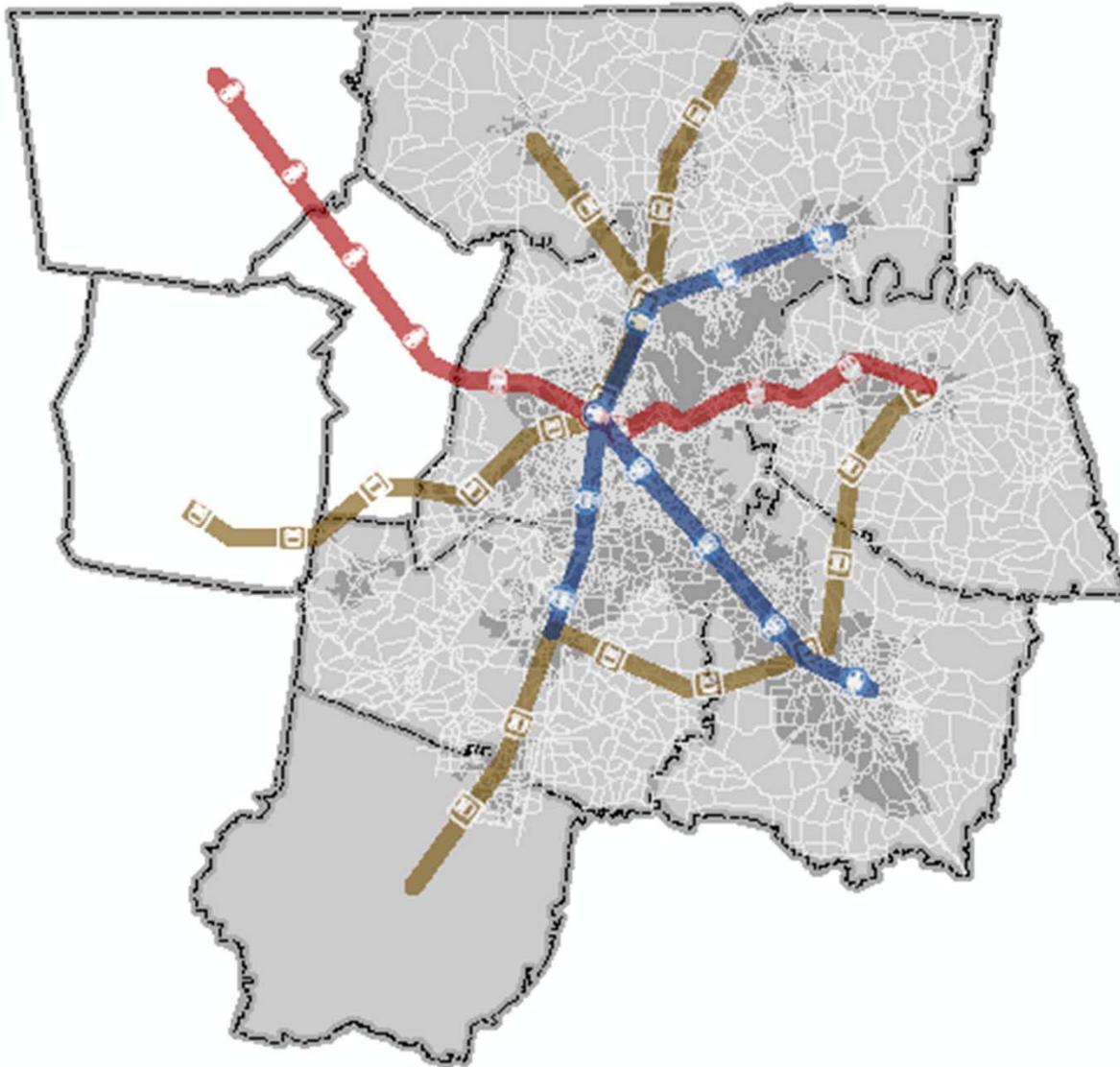
Regional Commuter Rail Corridors



Regional Commuter Rail Corridors



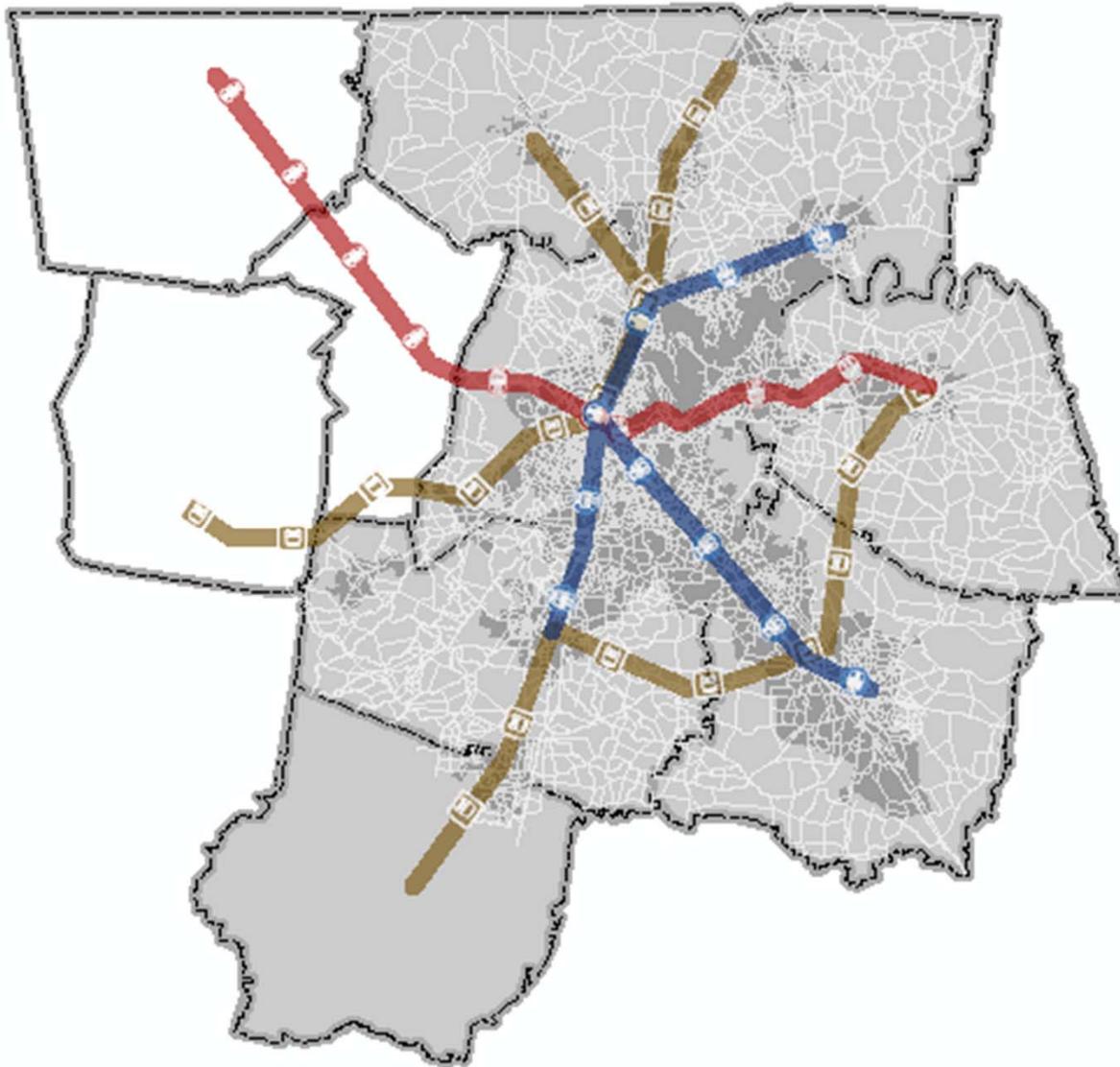
Regional Express Coach Service



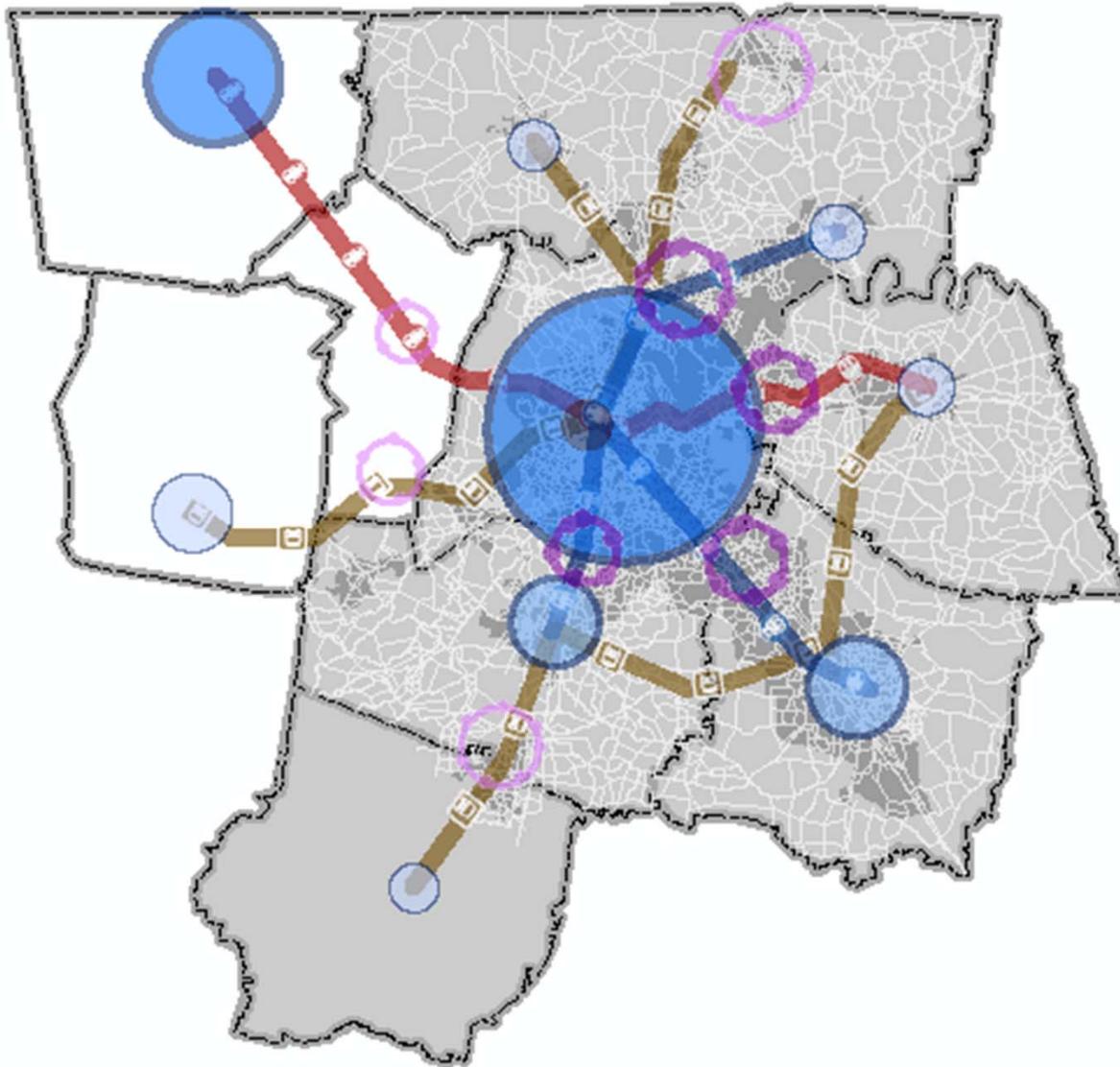
Regional Express Coach Service



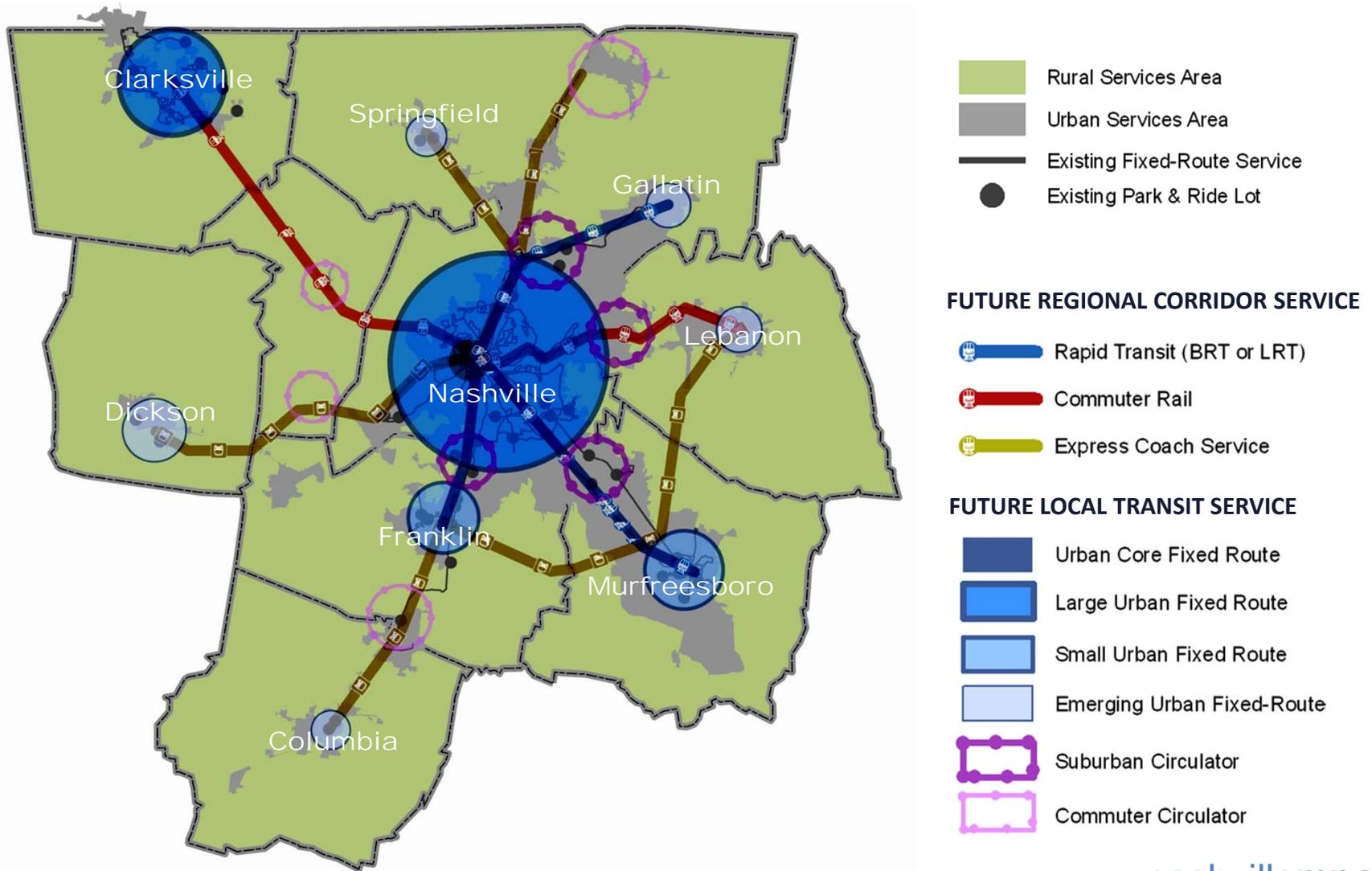
Regional Express Coach Service



Urban Fixed Route Service



A Bold, New Vision for Mass Transit



Getting there through Increments Investments

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Incremental Investments

➔ Expand Express Coach Service between Cities

- Park-n-Rides
- Wifi, Restrooms, Televisions



➔ Optimize Bus Service along Urban Arterials

- Real-Time Schedule Information
- Expedited Fare Payment
- Station Area Enhancements
- Signal Priority/ Queue Jumps
- Dedicated Lanes in Selected Locations



Incremental Investments

➔ Improve Circulation in Downtown Nashville and Suburban Activity Centers

- Lower Broadway/West End Streetcar Study (underway)
- Increased bus frequencies throughout Davidson County
- New circulators in emerging markets

➔ Add Transit Facilities During Major Highway Improvements or Rail Upgrades

- Improve access ramps, eliminate bottlenecks for vehicular traffic
- Construct transit-ways and slip ramps to transit-ready development sites



Funding Challenges

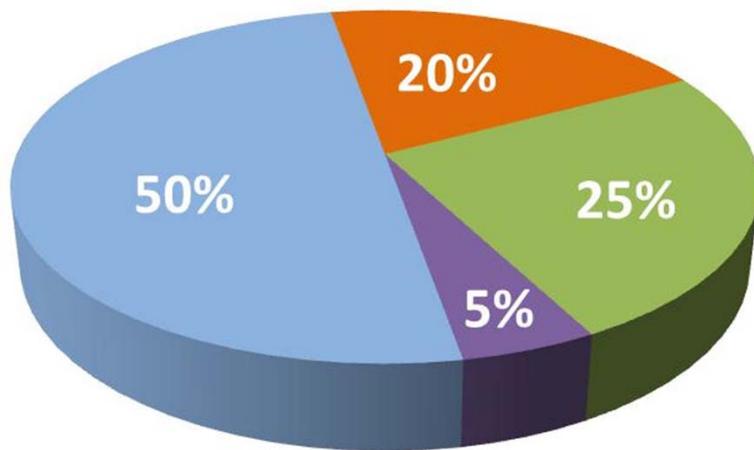
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Average Costs per Mile

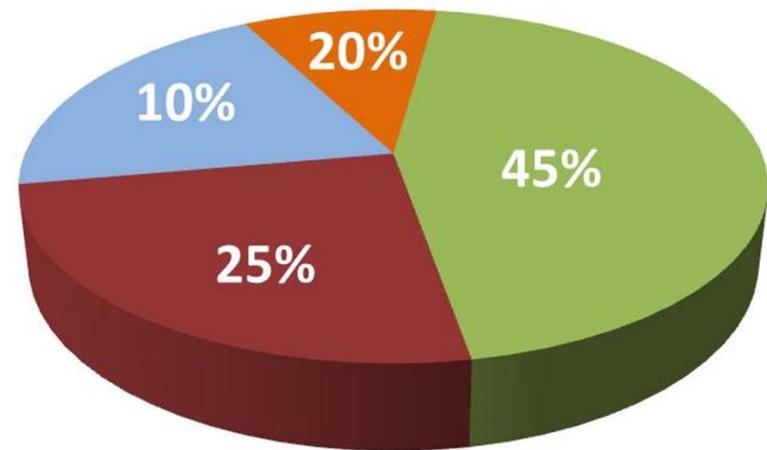
TRANSPORTATION OPTION	AVG COST / MILE (Million)
Heavy Rail Transit	\$139 - \$323
Light Rail Transit	\$45 - \$85
Bus Rapid Transit	\$3 - \$49
Electric Streetcar	\$3 - \$30
Commuter Rail	\$1 - \$15
4-Lane Highway	\$32 - \$60

Typical Transit Funding Pie

MAJOR CAPITAL PROJECTS

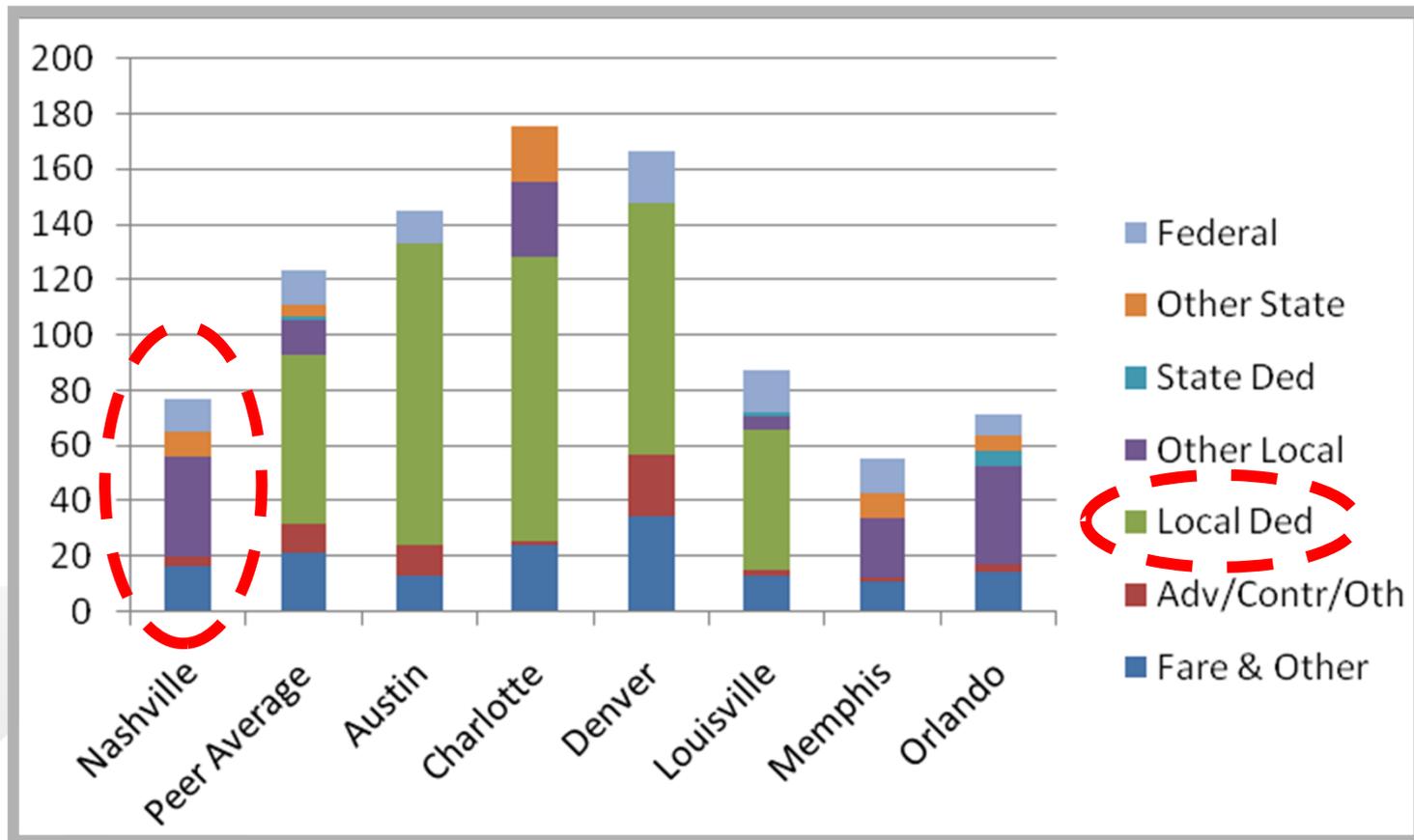


OPERATIONS & MAINTENANCE



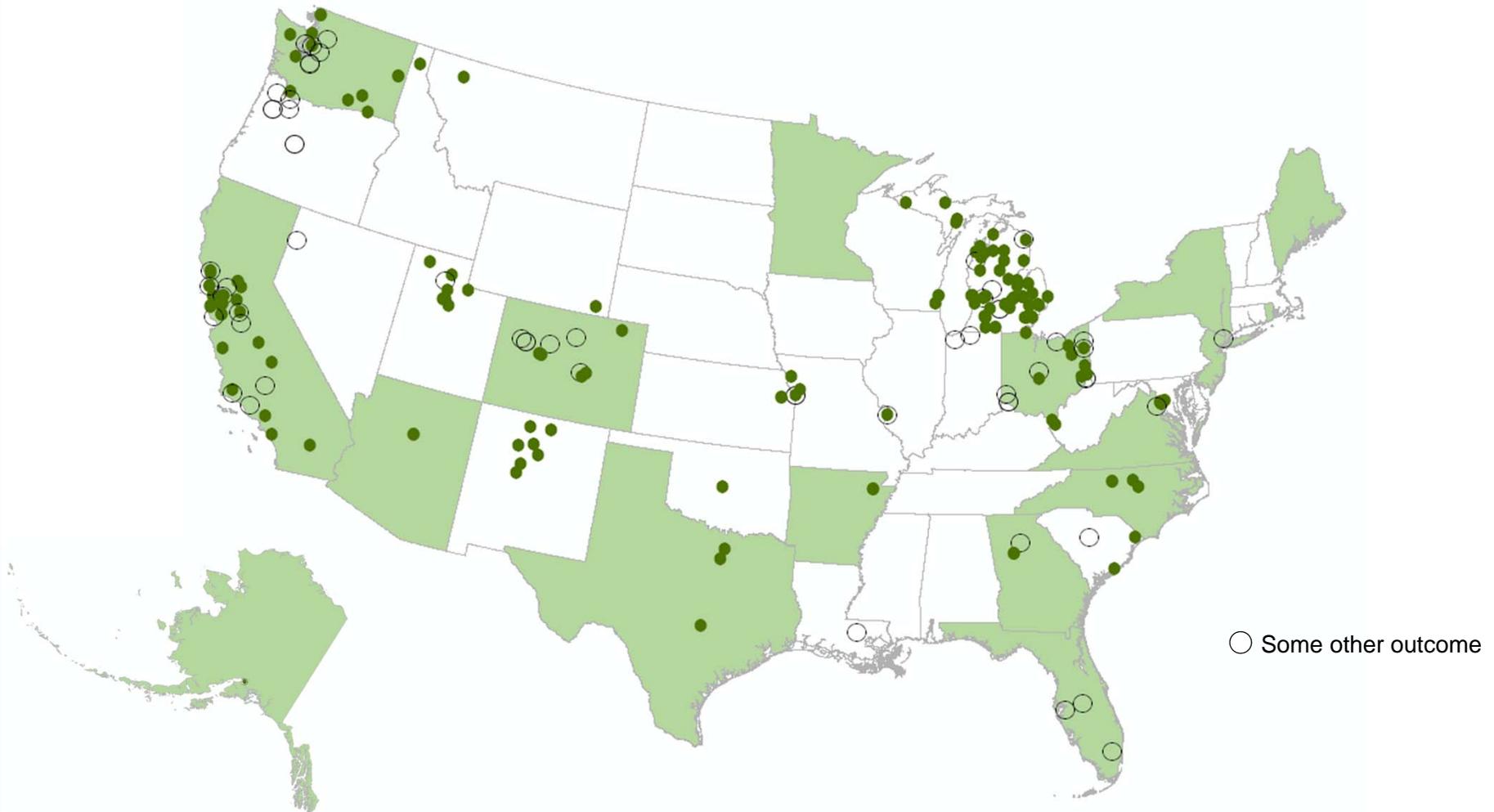
- Federal Grants
- State Funding
- Local General Funds/ Dedicated Funding
- Other Local/Private
- Operating Revenue

Sources of Funding for Transit



Other Local: Usually from the General Fund

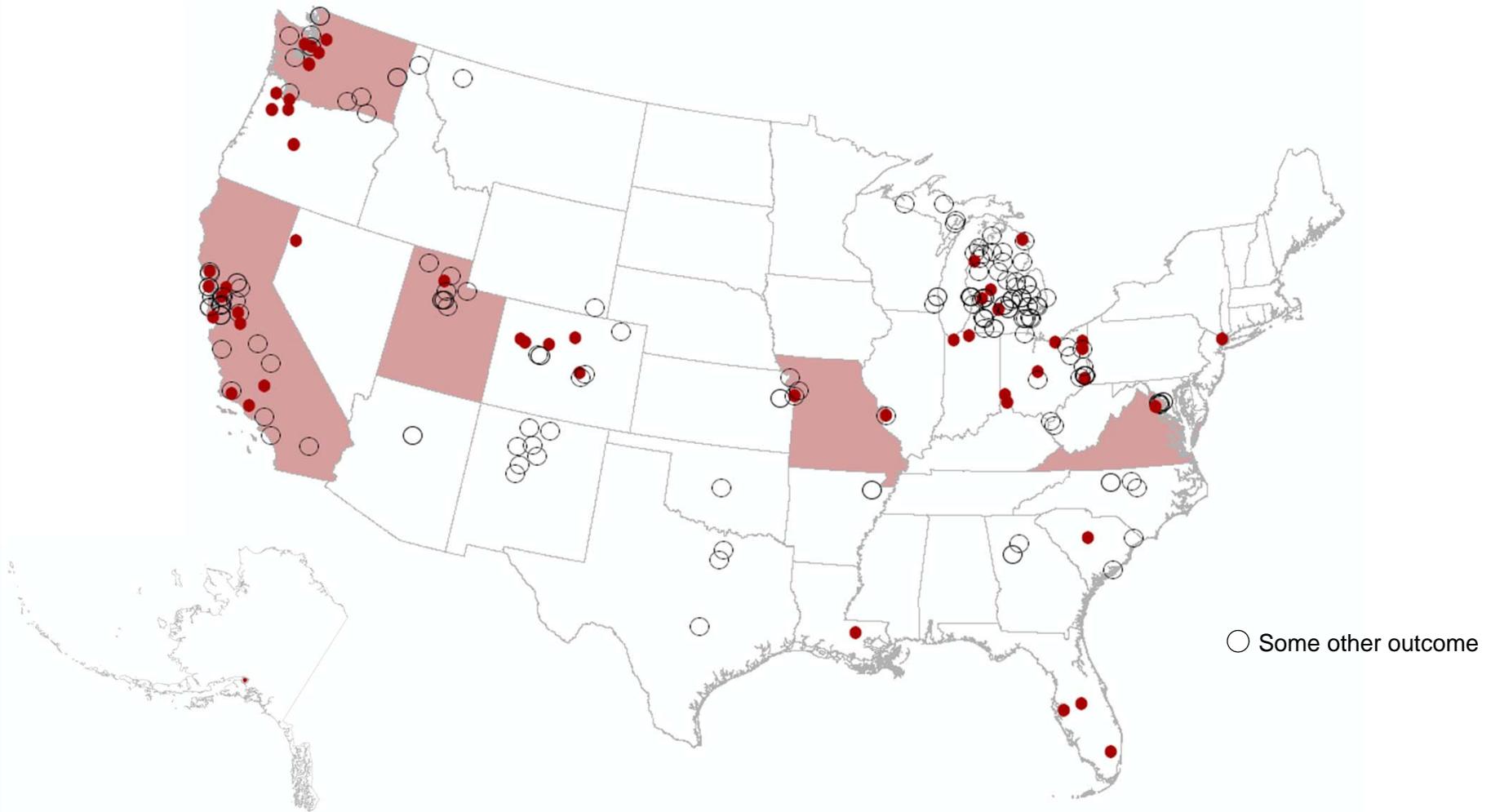
Voter Approved Initiatives Since 2000



Source: Center for Transportation Excellence
Analysis & Mapping: Nashville Area MPO

middleTNmayors.org
nashvillempc.org

Voter Rejected Initiatives Since 2000



Source: Center for Transportation Excellence
Analysis & Mapping: Nashville Area MPO

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nashvillempo.org

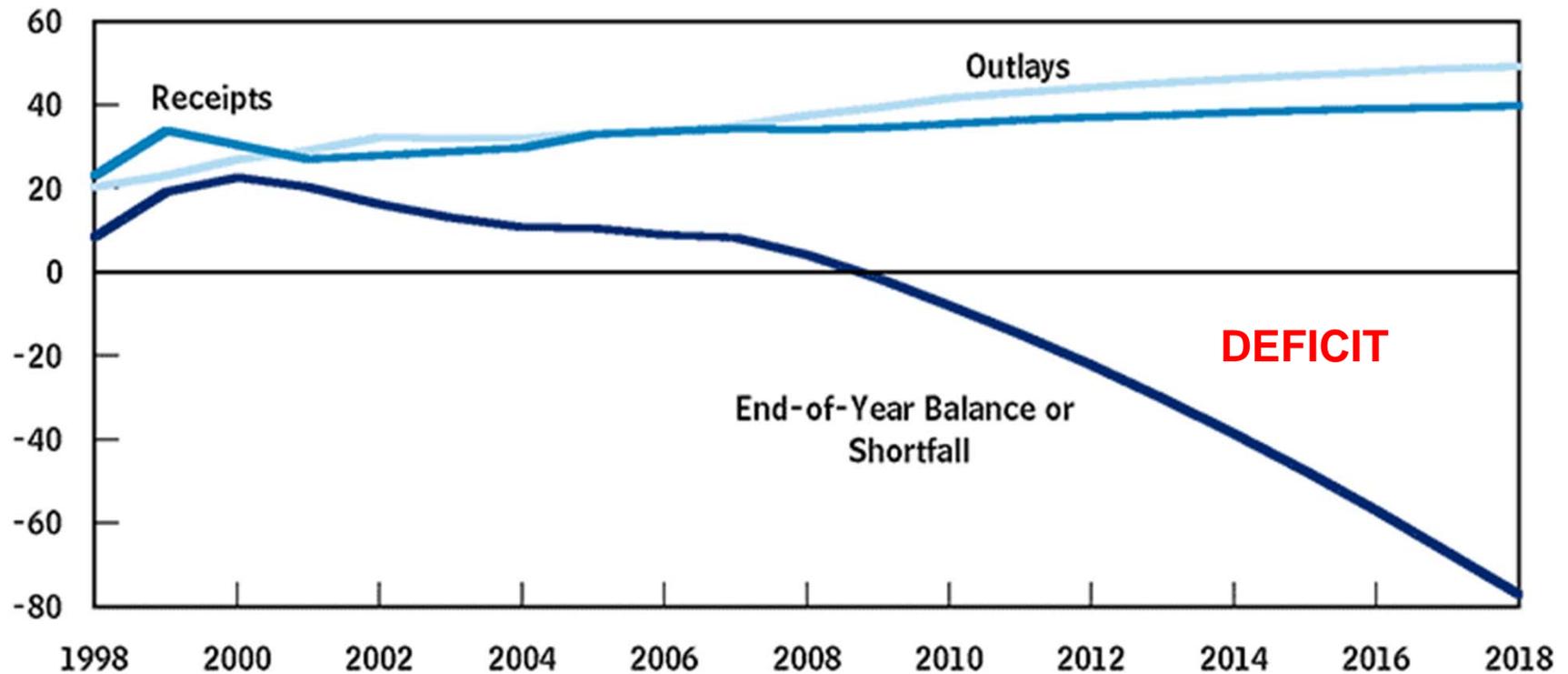
What do other things cost?

- ➔ 2030 Regional Plan adopted in 2005 = \$3.5 B
- ➔ Annual Payroll for NFL Players = \$3.6 B
- ➔ Central Texas Turnpike around Austin = \$3.6 B
- ➔ San Francisco/Oakland Bridge Replacement = \$6.3 B
- ➔ Denver FasTracks System = \$6.9 B
- ➔ Las Vegas City Center (mixed-use) = \$11 B
- ➔ Big Dig (Boston) = \$14.6 B
- ➔ TTI Cost of Congestion for Nashville Metro between now and 2035 = \$15+ B

Funding/ Financing Issues

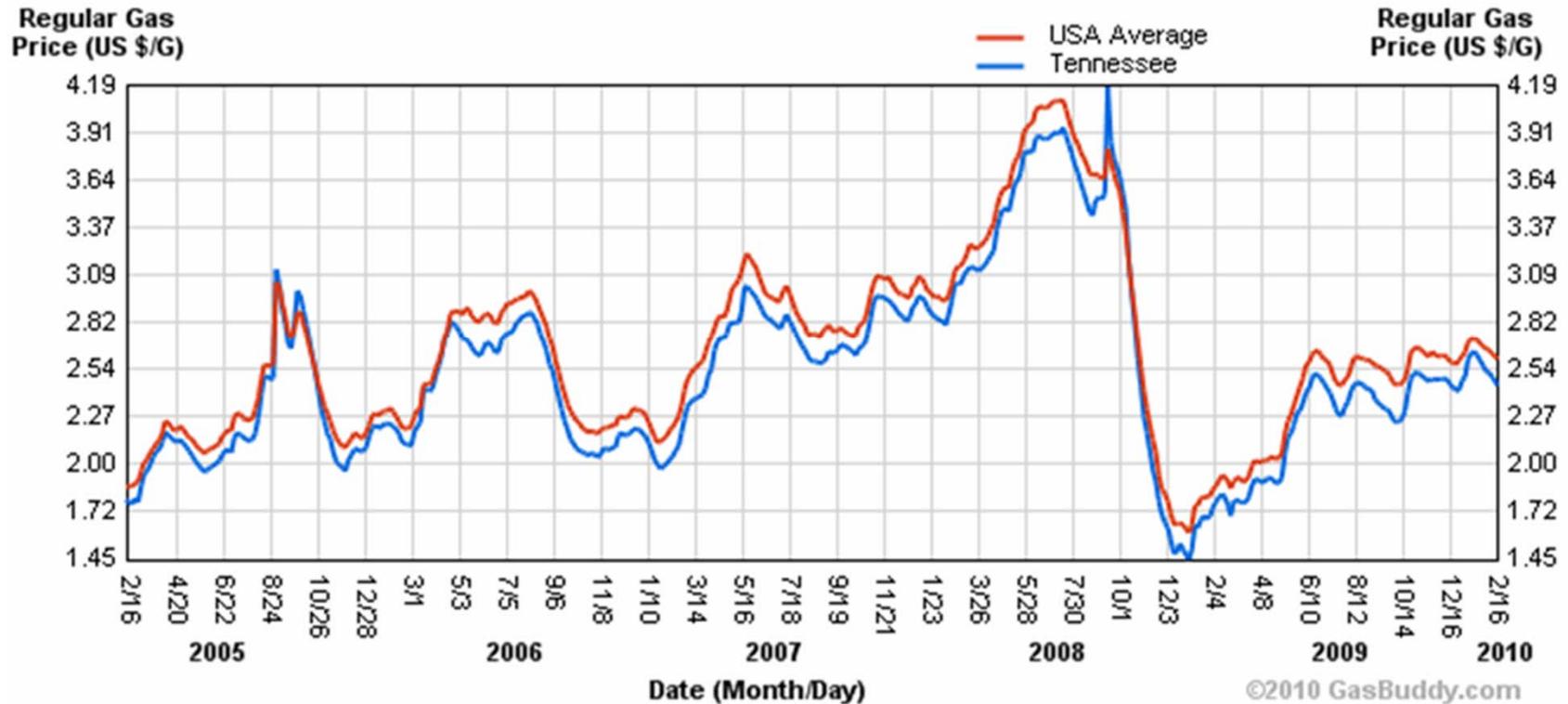
- ➔ **2035 Plan estimated to provide approx **\$4.9 B Federal****
- ➔ **The cost of NEEDS/ VISION is at least triple the anticipated revenues**
- ➔ **Lack of dedicated funding for transit to ensure stability and to compete for federal transit funds**
- ➔ **Sprawling land development pattern creates unsustainable demand for infrastructure**
- ➔ **Declining fuel tax revenues and buying power means fewer projects, slower progress, less benefit**

Highway Trust Fund Balance



Gasoline Prices, Last 5 Years

60 Month Average Retail Price Chart



Thinking Beyond the Gas Tax...

- ➔ Public Private Partnerships
- ➔ Tolling & Congestion Pricing
- ➔ Distance-Based User Fees
- ➔ Multi-Modal District Impact Fees
- ➔ New Dedicated Funding for Mass Transit

- ➔ **Align Current Dollars with Real Priorities**
- ➔ **Invest Now to Save Later**
- ➔ **Build More Sustainable Communities**

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Livability. Sustainability. Prosperity. Diversity.