



Infrastructure Leadership in the New Economy

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Infrastructure is a long-term proposition, one that has always required an understanding of future demand and trends, balanced with a realistic appraisal of available resources. Despite a very challenging economy, many leaders are forging ahead, applying innovations and trying out new ideas and approaches in an effort to bring America's infrastructure into the 21st century.

This chapter provides concrete, recent examples of how politicians, agency directors, and members of the business community are working to meet infrastructure needs in the new economic era. The six case studies in this section examine approaches that have been successfully applied in a variety of metropolitan areas across the country. Three focus on how regions are using ballot measures to fund critical infrastructure, and three showcase other examples of infrastructure leadership.

Global economic competitiveness demands new kinds of regional entrepreneurship, and each of these place-based stories provides insights and inspiration for leaders seeking infrastructure solutions:

- North Carolina's Research Triangle illustrates some of the challenges of funding and planning a regional transit system that spans three counties. In late 2011, one of the area's three counties passed a ballot referendum to fund its piece of the system. Now the region's other two counties must follow suit.

- Oklahoma City has developed an innovative way of funding civic projects—bundle them into short-term, focused packages, and subject them to a vote. The city's third in its Metropolitan Area Projects series, MAPs3, passed in late 2009 and is generating \$777 million for transformative downtown parks and other civic infrastructure over seven years.
- In Los Angeles, the campaign for Measure R—which will generate \$40 billion in local funding for critical transportation investments—relied on strong leadership from public officials and ample grass-roots support.
- In northeastern Illinois, a broad regional effort has produced a new water plan that works within existing institutional frameworks to ensure future water supplies for the region. Will the plan translate into action on the ground?
- In San Francisco, a cutting-edge parking program that uses new technology and pricing is better managing the city's parking resources.
- In New England, the "Knowledge Corridor" brand is providing a regional hook that leaders in two states are leveraging to build a more sustainable, transit-oriented future.

Voting for Infrastructure

Despite a sustained economic recession, voters in many parts of the country are approving local and state ballots that support infrastructure. Leaders recognize the potential for ballot mea-

The Bricktown Canal near downtown Oklahoma City, Oklahoma, was completed under the city's MAPs program.

asures to rally popular support for infrastructure investments that might otherwise languish unfunded. When given the opportunity, voters are saying yes to increased sales taxes, property taxes, and vehicle fees for investments that provide a clear benefit for their communities.

The Center for Transportation Excellence, which tracks transportation ballots, reports high approval rates even at the height of the economic recession. From 2008 to 2011, ballots that allocated funds to transit capital or operations had a 73 percent success rate, while those that included a combination of road and transit capital and operations had a 64 percent success rate. The Midwest is a popular place for ballot measures, and transportation ballots are successful across the country.

Whether states encourage voting for infrastructure depends on their political culture, often embedded in state laws and even

constitutional requirements. Many states, especially in the Midwest, require referendums to approve local bond issues. Other states allow local governments to collect local-option taxes and fees, such as sales taxes or vehicle registration fees, only if approved by voters. These local-option revenue sources have become potent vehicles for increased infrastructure investment.

Voters are also supporting open-space and land conservation measures, according to data gathered by the Trust for Public Land. In 2011, voters approved 14 of 24 measures, or 58 percent, yielding more than \$312 million in approved conservation funds; 2010 saw voters favoring such measures by an even greater margin—83 percent—or 41 of 49 ballot measures around the country. Open-space initiatives generated more than \$2 billion in 2010. From 2001 to 2011, 73 percent of 1,387 total measures were passed, resulting in upward of \$87 billion total funds approved.

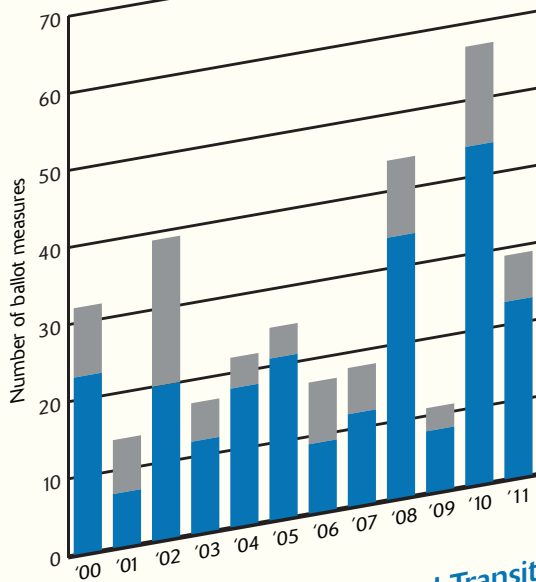
Big Votes in 2011; Votes to Watch in 2012

Win for infrastructure?	Measure	Type of ballot	Type of infrastructure	Summary
BIG VOTES IN 2011				
Yes	Grand Rapids, Michigan, BRT system	Property tax	Transportation	Voters approved 0.35 millage increase to property tax to support their local bus system and build the state's first BRT line. The tax will raise \$15.6 million per year.
Yes	Cincinnati, Ohio, street car system	Amendment	Transportation	Cincinnati voters voted down an amendment to prohibit the city from spending or borrowing money on a downtown streetcar project. This is the second time in two years that citizens have voted to support the project.
Yes	State of Washington highway tolls	Legislation	Transportation	Voters rejected an initiative aimed at restricting the use of highway tolls and blocking light rail from Interstate 90 near Seattle.
No	City of Seattle car-tab fee	Car-tab fee	Transportation	Seattle citizens voted against a \$60 car-tab fee that would have raised \$204 million over a decade for road and transit repairs.
Yes	State of Texas Water Proposition 2	Bonds	Water	Voters approved Proposition 2, which will allow the state to create a revolving \$6 billion bond package to finance water conservation and sewage and flood-control projects.
Yes	Travis County, Texas, Bond Proposition 2	Bonds	Parks and open space	Voters said yes to the county to spending \$82.1 million in bonds that will support eight park projects or land purchases.
VOTES TO WATCH IN 2012				
To be determined	State of California Water Bond 2012	Bonds	Water	The California Water Bond, on the ballot for 2012, would allow the state government to borrow \$11.1 billion to overhaul the state's water system.
To be determined	Atlanta Regional Transportation Ballot 2012	Sales tax	Transportation	The Atlanta region will vote in July 2012 on a one-cent sales tax increase to fund a list of transportation projects, including transit and roadway improvements, costing \$6.14 billion.
To be determined	State of Maryland Transportation Trust Fund Amendment 2012	Gas tax increase; vehicle registration fees	Transportation	Maryland state government has under discussion for the November 2012 ballot a measure establishing a transportation trust fund and increasing gas taxes and vehicle registration fees.
To be determined	State of Oregon Renewable Energy and Fuel Development and Security Initiative 2012	Legislation	Energy	Oregon citizens are collecting signatures for a November 2012 ballot measure that would authorize a commission to develop and distribute electricity and renewable energy.

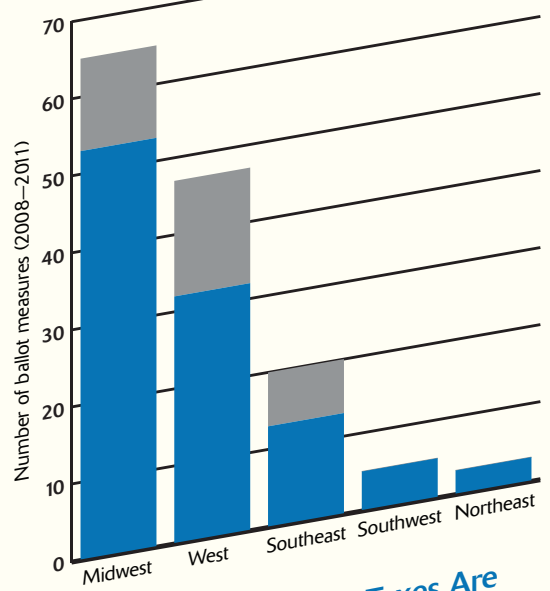
Source: ULI analysis of various sources.

Voting for Transportation at the Ballot Box

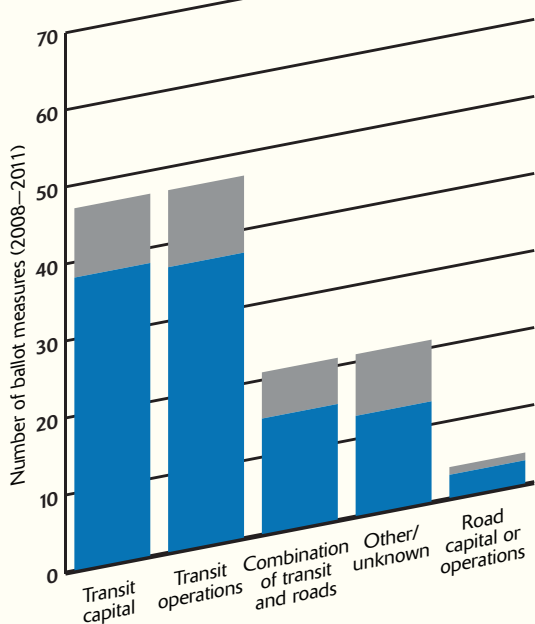
Transportation Ballot Measures Overwhelmingly Win with Voters



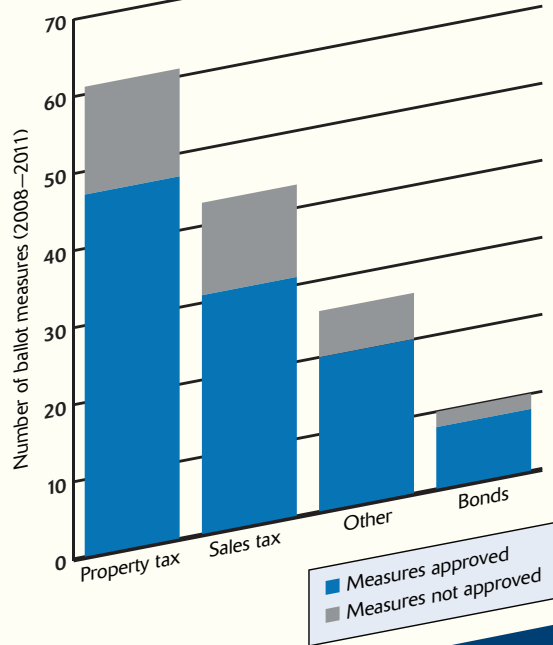
The Midwest and West Dominate Transportation Ballot Measures



Ballot Measures Often Fund Transit Capital and Operations



Property and Sales Taxes Are Often Included in Ballot Measures



Source: ULI analysis of Center for Transportation Excellence data.

Note: Analysis of data by year, region, project type, and revenue source.

■ Measures approved
■ Measures not approved

What are the traits of successful referendums? Best practices that have emerged from campaigns include the following:

- Wrap a specific list of projects into one vote. Voters want to know exactly what projects they are putting into motion and are wary of creating a slush fund for politicians. Aggregating projects broadens the ballot's appeal.
- Find the right funding mechanism. Increases in sales taxes and property taxes have been popular, but these are not viable in every state. Other prospective revenue sources may include vehicle fees, hotel taxes, or income taxes.
- Know your voter. Use polls and research to identify voters' values and priorities; hone the message to resonate with voters.
- Learn local politics. Consider how to take advantage of timing.
- Lead with champions. Position persuasive people and organizations to be the face of the message.
- Build a solid coalition. Reach out broadly to coordinate among stakeholders.
- Prepare to persist. Some ballots may need a second try to win; the first time may be a "trial run" that familiarizes voters with the issue.

Voting for Infrastructure Has Supported the Expansion of Transit across the United States

METROPOLITAN AREAS BUILDING MAJOR NEW TRANSIT SYSTEMS

Metro area	Transit improvements	Referendums to increase taxes?	Approved on first vote?	Source of funds
Charlotte	Light rail, commuter rail, streetcars, and BRT	Yes	Yes	0.5¢ sales tax
Dallas	Light rail	Yes	Yes (although some cities voted not to join)	1¢ sales tax
Denver	Light rail and commuter rail	Yes	No	0.4¢ sales tax
Honolulu	Light rail	No	Not applicable	Not applicable
Houston	Light rail	No	Not applicable	Not applicable
Las Vegas	BRT	Yes	Yes	0.125¢ sales tax
Los Angeles	Light rail, commuter rail, and bus projects	Yes	Yes	0.5¢ sales tax
Phoenix	Light rail and BRT	Yes	Yes	0.5¢ sales tax
Portland	Light rail and streetcars	No	Not applicable	Not applicable
Sacramento	Light rail	Yes	No	0.5¢ sales tax
Salt Lake City	Light rail, commuter rail, streetcars, and bus projects	Yes	No	0.25¢ sales tax
Seattle	Light rail, commuter rail, streetcars, and BRT	Yes	Yes: King County No: Sound Transit	Various sales taxes
St. Louis	Light rail and streetcars	Yes	Yes	1¢ sales tax
St. Paul–Minneapolis	Light rail, commuter rail, BRT	Yes	Yes	6.5¢ motor vehicle sales tax

Source: ULI analysis of various sources.

Beyond the Ballot Box: Leadership, Innovation, and Partnerships for Infrastructure

Of course, leadership in infrastructure extends beyond the ballot box. Across the country—even without major new local funding from a ballot measure—cities and metropolitan areas are finding ways to move forward with infrastructure in the new economy in creative and innovative ways.

Promising approaches include those that advance the following:

- Using existing infrastructure to its maximum potential, fully leveraging every resource, and including conservation as part of the puzzle. Shiny new projects are not always necessary.
- Tapping available federal funding to maximize investment opportunities. For now, at least, federal funding can provide a critical springboard for new programs and projects.
- Linking, explicitly, infrastructure investment and development. In an era of scarce resources, building a new infrastructure project without considering land use is foolish—or on the flip side, planning a new development project without first thinking about water, transportation, and other infrastructure.
- Exploiting the potential of collaboration and partnership. "In major urban areas, regional cooperation is key to getting anything done," said Jack Basso, director of program finance and management at the American Association for State Highway Officials.

VOTING FOR INFRASTRUCTURE IN RALEIGH-DURHAM, NORTH CAROLINA

Mobilizing for the Future of Transit in the Research Triangle



The November 2011 ballot in Durham County, North Carolina, is a success story: a solid majority of 60 percent of voters approved a sales tax increase to meet local transportation needs. But the ballot also illustrates the political complexity of developing a regional transit system that spans multiple jurisdictions. To move forward on the region's transportation plan, Orange and Wake counties also must pass their own sales tax referendums.

The Research Triangle (also known as Raleigh-Durham) is a region in north-central North Carolina anchored by leading technology firms, government, world-class universities and medical centers, and three important cities. The region includes Durham, Wake, and Orange counties and is home to a combined population of 1.5 million people that is projected to grow to 2.5 million by 2040.

LONG-RANGE TRANSPORTATION PLANNING

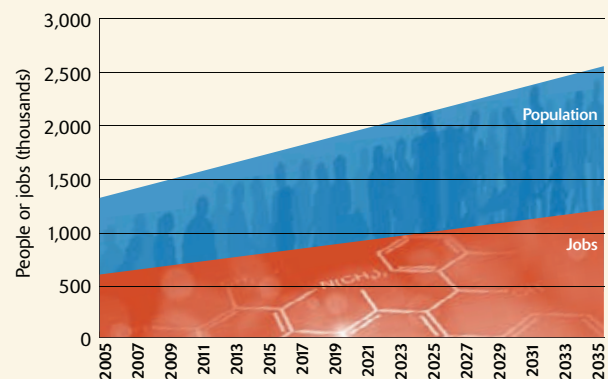
The region is served by two metropolitan planning organizations that, in an unusual collaboration, adopted a Joint 2035 Long Range Transportation Plan in 2009. The plan identified greatly expanded local and regional bus service, light rail, and commuter rail as priorities for the region. The plan, however, also noted the need for new sources of revenue to support its \$3.5 billion three-county bus and train network ambitions.

As transportation planners reviewed options for funding new transit investment, a sales tax stood out as the most feasible and attractive option. "Over the last five years, we have analyzed what we ought to do as a region, looked at the demographic projections, considered the volume of money needed, and surveyed national examples," explained David King, chief executive officer for Triangle Transit, the regional public transportation authority serving Durham, Orange, and Wake counties. In addition, nearby Charlotte successfully launched a new light-rail system in the 2000s, funded by a sales tax increase approved by voters in 1998.

But the Research Triangle faced two obstacles: the need for state legislation and the coordination of votes across three counties. By state law, only Charlotte's Mecklenburg County was permitted to submit sales tax increases to voters. In an effort to obtain the same opportunity in other parts of the state, a coalition of transit, transportation, and environmental groups advocated for State House Bill 148, which permitted other counties to vote on sales tax increases for transit. The bill was signed into law in August 2009.

High Growth Is Predicted for the Research Triangle

Estimated 2005 and forecast 2035 population and jobs in the Research Triangle



Source: Capital Area Metropolitan Planning Organization and Durham-Chapel Hill-Carrboro Metropolitan Planning Organization, 2035 Long Range Transportation Plan, 2009.

The Bull City Connector runs between downtown Durham and the Duke University campus and medical facilities. (Photo courtesy of Durham Convention & Visitors Bureau)

Planned Transit Investments Will Span Three Counties

Investments depend on outcome of upcoming votes



Source: Triangle Transit.

DURHAM COUNTY LEADS THE WAY

In June 2011, Durham County Commissioners scheduled a November 2011 referendum on a half-cent sales tax, ahead of action by Wake and Orange county officials. With the Durham ballot on the calendar, the campaign began in earnest. Strong supporters included Mayor Bill Bell, other local officials, and Triangle Transit. The campaign also enlisted prominent spokespeople to cheerlead the effort. The ballot received endorsements from three of the county's major political-action groups—the Durham Committee on the Affairs of Black People, the People's Alliance, and Friends of Durham. The strong economic development potential of the measure earned an unexpected endorsement from the Friends of Durham—a conservative group that has traditionally opposed tax increases—and helped establish a broad base of support for the measure.

On November 8, 2011, a strong showing of 60 percent of the voters in Durham County approved the half-cent sales tax for transit. The half-cent sales tax is projected to generate \$18.4 million annually over the next 30 years. With its revenue, Durham County seeks to expand bus service by 25 percent within the first three years, open a light-rail line between downtown Durham and University of North Carolina Hospitals by 2018, and build a commuter-rail line from downtown Durham to eastern Wake County by way of the Research Triangle Park by 2025. A half-cent sales tax in Orange County would generate \$5.1 million each year, with the Wake County tax bringing in \$54 million each year.

Projected Revenue and Expenditures for Transit in Durham County

	U.S. dollars (millions)	Percent of total
PROJECTED REVENUE (2012)		
One-half cent sales tax	18.4	85
\$7 vehicle registration fee	1.58	7.3
\$3 vehicle registration fee increase	0.677	3
Rental car tax revenue (Durham)	1	4.7
Total	21.66	100
EXPENDITURES (TOTAL SPENDING OVER LIFE OF 23-YEAR PLAN)^a		
Project		
Rail capital	1,669	73
Rail operations	283	12
Bus capital	47	2
Bus operations	151	7
Debt	136	6
Total	2,286	100

Source: Durham County Bus and Rail Investment Plan, June 2011.

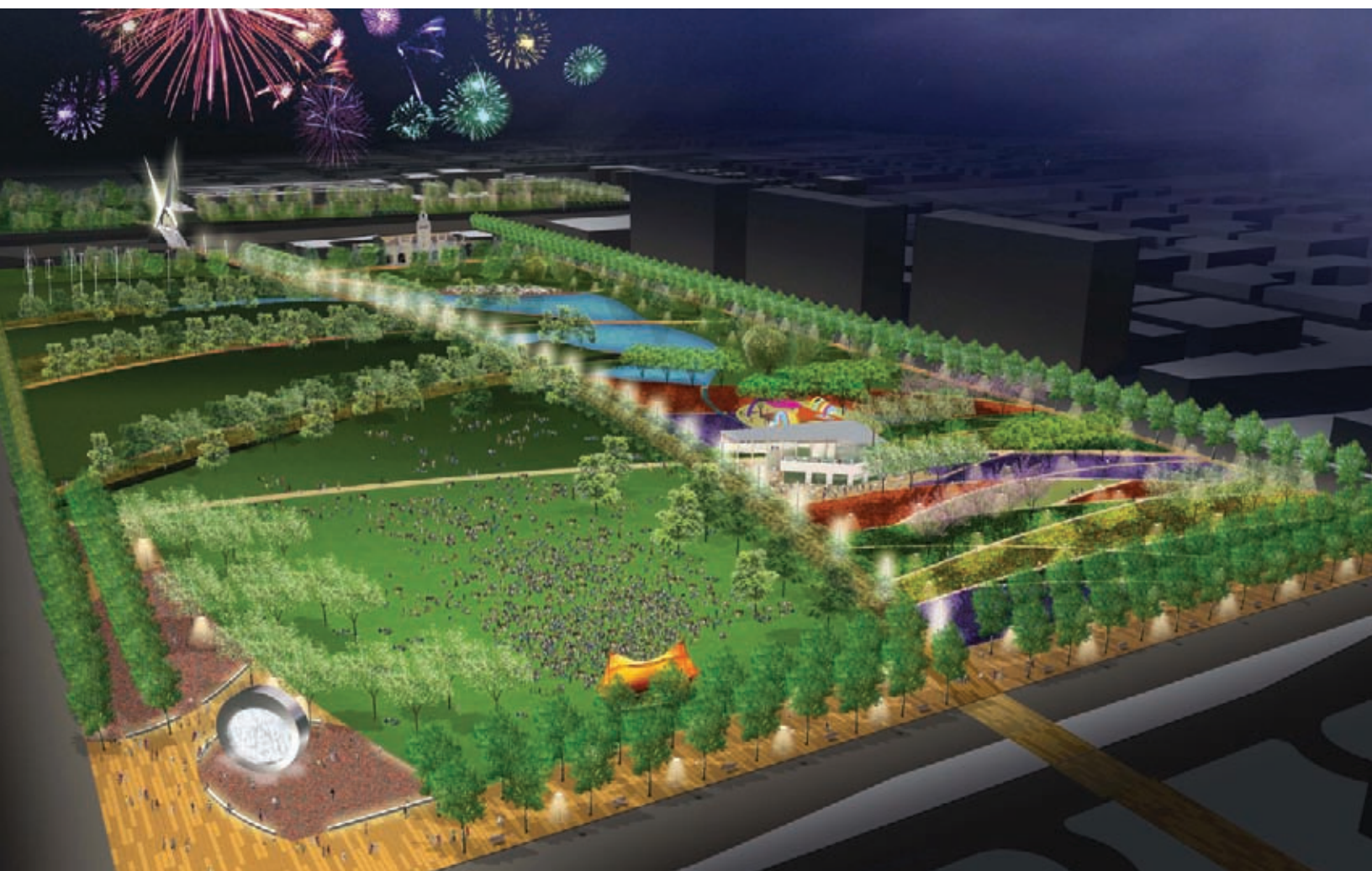
Note: The plan includes a 25 percent capital cost contribution by the North Carolina Department of Transportation and a 50 percent capital cost contribution for light rail and commuter rail from the federal government.

a. A cost-sharing understanding was reached by officials from both Durham and Orange counties that identifies how costs would be allocated for the light-rail project that crosses county borders.

PLANNING FOR THE FUTURE

Regional transit achieved a crucial step with Durham County's approval of the sales tax increase, and supporters hope that Durham's success will generate similar enthusiasm in the region's other counties. Durham officials, however, have indicated that they will not levy the new tax passed in Wake and Orange counties. Wake and Orange counties have not yet scheduled referendums for 2012, as they confront caution from conservative leaders and negotiate over transit routes and revenue issues.

The Research Triangle area demonstrates the challenges associated with trying to plan and fund transit investments across multiple jurisdictions. Triangle Transit's David King observed, "We must acknowledge that we live in a region, and sink or swim as a region. Transportation crosses boundaries without regard as to who is elected where." He added, "When we get this done on a three-county basis, it will be a victory for the political community, that they've gone beyond parochial boundaries and see themselves as a leader of a region."



VOTING FOR INFRASTRUCTURE IN OKLAHOMA CITY, OKLAHOMA

Making Room for Parks in Oklahoma City

Oklahoma City has created a formula for success in its Metropolitan Area Projects series. In December 2009, the city approved its third temporary sales tax increase to fund civic improvements and other projects. Revenue from MAPs3 is allowing the city to move forward with ambitious plans for a new central park and improved connections to the Oklahoma River.

Voters also enthusiastically support ballots for parks and recreation infrastructure. In a December 2009 special election, 54 percent of voters approved a one-cent sales tax increase to fund an ambitious parks and open-space agenda in Oklahoma City. The \$777 million MAPs3 ballot, the city's third in a series of successful MAPs votes that passed over the last two decades, included plans for a grand central park of 70 acres, 57 miles of new bicycling and walking trails, recre-

ational upgrades for the Oklahoma River, and intensive renovation of the state fairgrounds.

The ballot, which brings local sales tax to 8.375 percent, authorizes collections for a seven-year period starting in April 2010 and sunseting in December 2017. An appointed Citizen Advisory Board assists the city with implementation.

Why have the MAPs initiatives been so consistently successful? According to Russell Claus, Oklahoma City's planning director, consistently strong leadership at the city level—across several mayoral administrations—and effective partnerships with the Chamber of Commerce and others in the private sector have been important. Each initiative has been targeted and limited in scope and duration. And a strong track record in delivering the promised bundle of projects has helped build public trust and goodwill, as well as momentum for the next proposal.

This artist's rendering shows conceptual plans for Oklahoma City's Central Park, funded by MAPs3 revenues. (Rendering courtesy of the city of Oklahoma City)

Oklahoma City's MAPs3 Revenue and Expenditures, 2010–2018

	U.S. dollars (millions)	Percent of total
PROJECTED REVENUE		
Sales tax revenue	777	100
EXPENDITURES		
Project		
A new, approximately 70-acre central park linking the core of downtown with the Oklahoma River, including a restaurant, lake, amphitheater, dog park, skating rink, and other amenities	130	16.7
Fifty-seven miles of new public bicycling and walking trails throughout the city	40	5.0
Improvements to the Oklahoma River, including a public whitewater kayaking facility and upgrades intended to achieve the finest rowing racecourse in the world	60	7.7
Improvements to the State Fair Park public buildings, meeting halls, and exhibit spaces	60	7.7
State-of-the-art health and wellness aquatic centers throughout the city designed for senior citizens	50	6.4
A new rail-based streetcar system of five to six miles downtown, a downtown transit hub to link streetcar, commuter rail, and bus systems, and possibly increased funding for the building of commuter-rail lines	130	16.7
A new downtown convention center on the south edge of downtown near the proposed park	280	36.3
Sidewalks to be placed on major streets and near facilities used by the public throughout the city	10	1.3
Contingency funds to cover unforeseen costs	17	2.2
Total	777	100.0

Source: Oklahoma City.

MAPS3: POISED FOR SUCCESS

The success of the earlier two MAPs programs helped lay the groundwork for the city's third sales tax ballot effort. At nearly eight years and \$777 million, MAPs3 is the most ambitious and longest-lived program to date.

Early in the MAPs3 exploration process, the city conducted a four-month online call for ideas from Oklahoma City residents. Over 85 percent of respondents thought MAPs3 was a good direction to go. The calls also generated more than 2,700 suggestions for future projects, with public transit improvements leading the list. Of the 14 ideas that were most popular in the

survey, 12 were included in MAPs3 or addressed through other city programs.

Strong support from Mayor Mick Cornett helped bolster voter enthusiasm for MAPs3. At regular press conferences over a two-and-a-half month period, the mayor made a case for each of the eight projects (see chart) that made the MAPs3 ballot. Leadership elsewhere in city government, including long-term city council members and experienced agency staff, was also valuable.

At the December 2009 vote, MAPs3 carried the day, winning 54 percent of ballots.

A MAP FOR MOVING FORWARD

In its MAPs programs, Oklahoma City has developed a valuable system for funding important civic open-space, parks, and transit projects, an approach that continues to garner significant public support. Bundling seemingly diverse projects encourages links among them, in addition to creating appeal for a broad range of voters.

The limited lifespan, ten to 12 years, of each MAPs program has proven to be a smart idea. The time frame offers adequate opportunity to complete the promised projects while reassuring voters that their elected leaders remain accountable. Strong oversight has also helped. "We have tried to make it as transparent as possible," noted Claus. Success in the present builds momentum for future endeavors.



Oklahoma City has an ambitious infrastructure agenda, funded by MAPs and other sources.

VOTING FOR INFRASTRUCTURE IN LOS ANGELES, CALIFORNIA

Measure R: Going Multimodal in Los Angeles

In 2008, a supermajority of 67 percent of Los Angeles voters passed Measure R, a landmark referendum that authorized a half-cent sales tax increase. Measure R is expected to generate \$30 billion to \$40 billion over the next 30 years for an ambitious mix of transit and road projects. A list of projects calibrated to appeal to a varied demographic of voters helped build support for the measure. Frequent polling, a diverse coalition of interests, and a persuasive message were other elements that helped push the ballot over the finish line.

Los Angeles—the name alone instantly evokes freeways and car culture. Yet in 2007 a broad coalition of business, labor, environmental, and political leaders came together under the banner of “Time to Move LA” to address the region’s pressing

transportation needs and ambitious sustainability goals. At a January 2008 conference dedicated to questions of funding, 350 participants came to consensus that a sales tax increase was the region’s best bet. A new advocacy organization, Move LA, was born to push for the funding.

Ten months later, a 67 percent supermajority of voters approved Measure R, a half-cent sales tax proposed by the Los Angeles County Metro Transit Authority (Metro). Capital improvements for new transit and highway projects make up almost 60 percent of the Measure R funds. New transit projects include light-rail lines to new locations in the county, BRT systems, and high-capacity bus programs. Another quarter of the Measure R budget is for transit operations, which will help support low fares and consistent services.

For the 2008 campaign, the nonprofit Los Angeles County Economic Development Corporation estimated that Measure R would help fund dozens of vital transit and highway projects, produce more than 210,000 new construction jobs, and generate \$32 billion for the local economy.

Measure R Will Dramatically Change the Transit Landscape in Los Angeles County

Proposed rail and rapid-transit expansion and highway improvements



Source: Map courtesy of Metro. © 2012 LACTMA.

THE SUPERMAJORITY AND THE SALES TAX

A countywide sales tax of up to 1 percent is the most common tool for funding local transit in California and is used by more than a third of California counties. Such transit sales taxes typically extend for about 30 years. Two half-cent transportation sales taxes were already in effect in Los Angeles County prior to Measure R and supported the past decade’s improvements to transit and roads.

Yet levying a local-option sales tax for transportation in California is not simple. All such taxes must be put before the voters, and the state imposes a high bar for approval. Ballots must earn approval from a supermajority of more than 66.67 percent of county voters. This rule raises the stakes for ballot proponents, requiring careful strategizing and legwork before a campaign even begins. But before Measure R proponents could even think about a vote, they had to secure state legislative authorization to exceed the one-cent cap on local-option sales taxes for transportation, an effort led by Assemblyman Mike Feuer with support from Metro.

THE MEASURE R CAMPAIGN

An understanding of public opinion was crucial: separate polls by Metro, Move LA, and the Los Angeles Mayor’s Office suggested that voters would be receptive to a well-crafted, carefully designed campaign that emphasized transportation benefits. Timing also appeared to be fortuitous: 2008 was a presi-

Los Angeles County's Measure R Revenues and Expenditures, FY 2010–2039

PROJECTED REVENUE		U.S. DOLLARS (MILLIONS)			
Half-cent sales tax revenues, 30 years		40,000			
EXPENDITURES					
Project	Percent of total (net of administration)	First-year amount	Ten-year amount	30-year amount	
Transit capital: New light- and commuter-rail and BRT projects	35	241	2,930	13,790	
Transit capital: Metrolink capital improvement projects within Los Angeles County (operations, maintenance, and expansion)	3	21	251	1,182	
Transit capital: Metro rail system improvements	2	14	167	788	
Highway capital: Carpool lanes, highways, goods movement, grade separations, and sound walls	20	138	1,675	7,880	
Rail operations: System improvements, rail yards, and rail cars, including a Metro fare freeze until 2013	5	34	419	1,970	
Bus operations: Countywide bus service operations, maintenance, and expansion	20	138	1,675	7,880	
Other: City-sponsored local transportation improvements (for cities to determine)	15	103	1,256	5,910	
Administration costs	Less than 1.5	11	127	600	
Total	100	700	8,500	40,000	

Source: Los Angeles County Metropolitan Transportation Authority.

dential election year, and high voter turnout was predicted. A favorable voter forecast persuaded the Metro board of directors to place Measure R on the November 2008 ballot.

Strong political support for Measure R from Mayor Antonio Villaraigosa created essential momentum for the Measure R campaign, as did support from the supervisor of the Los Angeles Third District, Zev Yaroslavsky, a majority of the five-member County Board of Supervisors, and other local elected officials from around the county. Highly influential—though politically odd—bedfellows of business, labor, and environmental constituencies organized to back the yes vote. Endorsements from the Los Angeles Area Chamber of Commerce, the Los Angeles Business Federation, and other organizations helped build widespread support for the initiative.

According to Jaime de la Vega, former deputy mayor for transportation, four factors contributed to the ultimate success of the Measure R campaign:

- Mayor Villaraigosa's vision for an expanded transportation and transit system;
- Measure R's specific list of projects, with a mix that included "something for everyone"—transit as well as roads and highways, including an allocation of 15 percent of revenues for local priorities;
- An external, privately financed campaign team of professionals who had been involved in Mayor Villaraigosa's election; and
- Luck: gas prices in Los Angeles reached \$5.00 a gallon in summer 2008, reinforcing for voters the need for transportation alternatives and congestion reduction.

In addition, Metro's "Five Point Plan" sought to easily summarize the projects into something for everyone: rail expansion, street improvements, traffic reduction, public transportation, and quality of life.

In summary, Measure R's recipe for success included the following ingredients: strong political support from persuasive elected leaders and the regional transportation agency; proponents organized in a broad, diverse, and enthusiastic grass-roots coalition; a specific list of projects with enough variety to appeal to a critical mass of voters; and a carefully tuned message tailored to voter submarkets.

LOOKING FORWARD

Following the approval of Measure R, Mayor Villaraigosa began to campaign at the national level for his "30-10" plan, allowing the construction of Measure R's projects in ten years, rather than 30. The premise of the plan, since renamed "America Fast Forward," calls for the federal government to provide credit and tax incentives for packages of projects like Measure R. The outcome depends in part on Congress's advancement of a new federal transportation bill.



INFRASTRUCTURE LEADERSHIP IN NORTHEASTERN ILLINOIS AND GREATER CHICAGO

Securing Water for the Future in Greater Chicago

Northeastern Illinois's Water 2050 plan is a substantial regional undertaking. Concerned that population and economic growth could lead to water shortages, the region's water leaders prepared Water 2050 to help safeguard water supplies in the region's 11 counties through midcentury. Officially endorsed by regional water leaders in January 2010, the plan lays out over 200 water conservation strategies, many of which seek to create stronger links between land use and water.

Despite the appearance of nearly limitless freshwater in a region nestled between the Mississippi River and Lake Michigan, water is a precious resource in northeastern Illinois. During the summer of 2005, a long and costly drought—one that ranked among the state's three most severe in 112 years of record—raised the profile of water supply and spurred some soul searching among the region's leaders. How should water supply and demand be managed for the next generation and beyond?

The Illinois governor's office—finally heeding years of calls for comprehensive state and regional water planning—issued an executive order in January 2006, directing the state to initiate a water supply planning process for the 11-county northeastern Illinois region. A stakeholder committee composed of 35 delegates convened to prepare the plan. The region's powerful

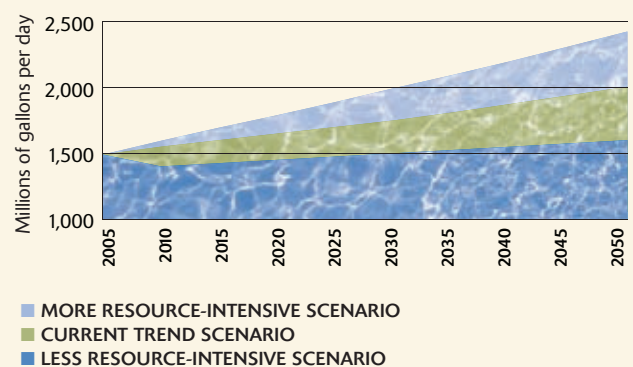
Despite the appearance of nearly limitless water resources, water management in the Chicago region is a challenge.

planning body, the Chicago Metropolitan Agency for Planning (CMAP), was commissioned to support the process.

The committee—called the Regional Water Supply Planning Group—started with a number of goals. The water plan, the group determined, should help maintain water supplies in the region and protect the quality of ground- and surface water. Other goals included informing residents about the importance of water stewardship, better managing water withdrawals, pro-

Water Demand Is Projected to Increase Dramatically in Chicago

Demand scenario water withdrawals, 2005–2050



Sources: Chicago Metropolitan Agency for Planning.

moting intergovernmental coordination, and improving the integration of land use and water management. Notably, the focus of the plan was not on changing the region's existing governance structures for water or on identifying capital projects.

The water planning process occurred against a complex legal backdrop. A 1967 U.S. Supreme Court Consent Decree limits the amount of water that Illinois may divert from Lake Michigan to about 2 billion gallons per day. The state is also a party to the Great Lakes Compact, a historic, multistate 2008 agreement that limits diversion from the Great Lakes by neighboring states and provides goals for the conservation of Great Lakes water. Illinois is subject to the compact's conservation requirements. These factors—and the possibility of water shortages caused by population and economic growth—added urgency to the region's water planning process.

THE WATER 2050 PLAN

In January 2010, after three years of monthly meetings, Water 2050: Northeastern Illinois Regional Water Supply/Demand Plan was completed, winning the unanimous support of the planning group. Water 2050 summarizes the group's findings and analysis and offers more than 200 water use strategies. The plan's recommendations target the state of Illinois, CMAP, municipalities, and local water suppliers.

Among the overlapping recommendations included in the plan are the following:

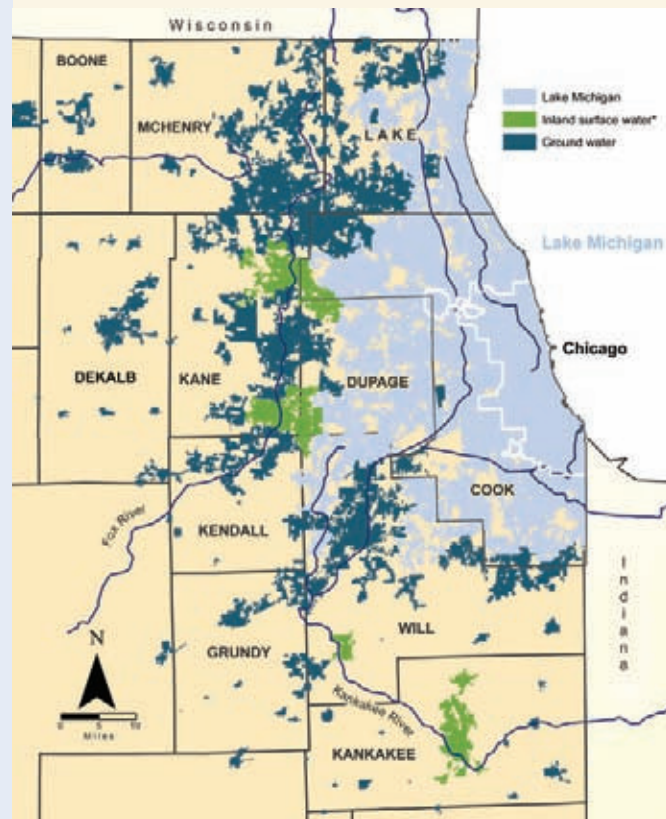
- **Better integrate land use and development considerations with water:** encourage compact development patterns in or near existing communities, use conservation design principles and practices, and preserve open lands and green space;
- **Encourage conservation:** price water to reflect the cost of water supply as well as distribution (known as “full-cost” or “conservation” pricing), institute public information campaigns, reuse graywater and wastewater, and create new “conservation coordinator” positions; and
- **Protect water quality:** use more environmentally friendly methods to deice roads and introduce more protective land use measures.

LOCAL DECISION MAKING

Hundreds of local water authorities manage water in northeastern Illinois; Water 2050 attempts to integrate recognition of the regional nature of water resources into their decision making, which historically has focused on meeting local water needs. Adoption of the recommendations, however, is voluntary. “It is now up to public water suppliers to see the common sense in the recommendations and implement them,” explained Tim Loftus, principal for water resources planning and programming at CMAP.

Lake Michigan Supplies Most of Metropolitan Chicago's Water

Source of public water supply by municipality in the 11-county planning region



Source: Chicago Metropolitan Agency for Planning.

Implementation is picking up momentum at the local level. Building off Water 2050, five counties and other partners have formed the Northwest Water Planning Alliance to develop shared subregional policies that complement or support the overall plan. The city of Chicago is taking the cue to up the price of water. Mayor Rahm Emanuel's 2012 budget establishes rate increases of 25 percent in 2012, with additional 15 percent increases in each of the next three years. Revenues will fund an ambitious investment program. CMAP itself has integrated Water 2050's findings into GO TO 2040, the region's long-term comprehensive plan.

The Water 2050 process illustrates the complicated challenge of managing and maintaining a vital resource like water—one that is shared regionally, nationally, and internationally. Water 2050 provides the region with a common framework for understanding its water future and a set of strategies for effecting change. Translating this work into more action on the ground is now the task at hand.

INFRASTRUCTURE LEADERSHIP IN SAN FRANCISCO, CALIFORNIA

The Price Is Right: Parking Goes High Tech in San Francisco

Circling a busy city district in search of an on-street parking space? San Francisco wants to make your life easier. A pilot program, called SFpark, uses variable pricing to match demand and supply, providing a glimpse at the technology-rich future of parking.

SFpark, launched in San Francisco in April 2011, operates on 7,000 on-street spaces and 12,250 garage spaces throughout the city. It combines dynamic pricing with technology that uses embedded roadway sensors to track the availability of parking spaces and transmit the information wirelessly to a data feed. Tech-savvy Bay Area drivers can check online via smartphone app or text message, or call a phone hotline to see where spaces are available, then pay for parking by credit card or phone.

SFpark gives drivers choices: pay more and walk less, or pay less and walk an extra block or two. The price of parking is adjusted according to demand and varies based on location, time of day, and day of week. Hourly rates can reach as high as \$6.00 but can be as low as 25 cents during nonpeak times in low-demand areas. As SFpark gathers information about the effect of pricing on parking supply and demand, it periodically adjusts rates, which are displayed at garages and meters and online. The \$25 million program, which received a \$20 million federal grant from the U.S. Department of Transportation's Urban Partnerships program, is in a pilot phase through summer 2012.

Making parking easier and more convenient is SFpark's primary goal, but its planners have bigger things in mind. The new pricing schemes should improve access to local businesses; removing circling vehicles from the traffic lanes should reduce congestion, increase traffic flow, improve the reliability of city buses, and improve air quality. "SFpark is helping us to realize the promise of using data to make smarter decisions," explained Jay Primus, SFpark manager for the San Francisco Municipal Transportation Agency (SFMTA).

Thus far, the program has helped boost meter revenue; income from SFpark meters increased by 20 percent in 2011 over 2010. One unexpected outcome: all the upgrades are driving down citation fees from parking violations. These fees declined by more than 30 percent in 2011.

CREATING SFPARK

SFpark was championed and administered by SFMTA. In some cities, separate departments manage on-street parking, city-owned garages and lots, and parking enforcement. In San



San Francisco's SFpark parking management system uses sensors to adjust meter prices based on demand. Users can access information with smartphones. (Photo courtesy SFpark)

Francisco, SFMTA is the sole agency responsible for these tasks and thus was in a strong position to focus on delivery of the project. The Port of San Francisco, which has jurisdiction over 1,000 metered on-street spaces along the city's waterfront, was also involved.

SFMTA enlisted the help of several partners to develop and launch the program, including an academic advisory team and a variety of private sector players. The academic advisory team, which included parking management guru Donald Shoup, provided early consultation on program design and data collection. Private sector contributors helped create supporting technology, including software, smartphone applications, parking sensors, mapping, and redesigned meters.

THE IMPORTANCE OF MESSAGING AND DATA

Effective communication has been a key component of the *SFpark* program. Helping the public understand that the program was about managing transportation in smarter ways—not just about increasing the price of parking—was crucial. “So far, public reception has been very positive,” reported Primus. “We really haven’t received any complaints. In large part, it’s

because there’s a strong value proposition. Parking is easier to find, easier to pay for, and more convenient, with longer parking time limits,” he explained.

SFpark periodically evaluates the program’s effect on parking availability, revenues, and congestion. In 2012, SFMTA will take a look at how well the pilot program achieved its broader goals of reducing congestion and improving bus reliability. The agency also hopes to produce a comprehensive guide on the technical aspects of the project that can aid other cities interested in replicating the effort.

INNOVATIVE APPROACHES AND TECHNOLOGY

As the country’s first large-scale application of smart technology and pricing to manage parking, strong leadership from the agency in charge was critical, as was the federal funding that helped underwrite the program. But going first also raises risks, which SFMTA mitigated by tapping into the region’s wealth of knowledge and private sector technological prowess. *SFpark* is attracting attention: the Institute for Transportation and Developmental Policy gave San Francisco its 2012 Sustainable Transport Award, in part for the innovative parking management program.

***SFpark* adjusts parking rates in San Francisco’s Moscone Garage in response to demand. (Photo courtesy of SFpark)**



INFRASTRUCTURE LEADERSHIP IN HARTFORD, CONNECTICUT, AND SPRINGFIELD, MASSACHUSETTS

Using Transit to Build a Bi-State “Knowledge Corridor”

The bi-state area of central Connecticut and western Massachusetts has a history of strong regional cooperation. Since 2000, the region’s public and private sector leaders have promoted the area as “New England’s Knowledge Corridor” and fostered a unified approach to economic, cultural, and civic development. Now, a new bus rapid-transit system, regional rail line, and federal planning grants are helping the region usher in a more sustainable, transit-oriented future.

The central Connecticut and western Massachusetts region is home to 1.6 million people, with 160,000 students at 32 universities and colleges. Anchored by Hartford, Connecticut, and Springfield, Massachusetts, and situated between New York and Boston, the area shares many assets and common interests.

Rather than competing for economic opportunities, local leaders have worked for over a decade to promote and develop the area as a whole. In 2000, Northeast Utilities convened a bi-state group of the chief business, economic development, planning, and educational organizations, creating the Hartford-Springfield Economic Partnership to begin working together to advance the region’s economy. The group developed the “Knowledge Corridor” brand as a way of describing and promoting the region as a whole and of emphasizing “the area’s rich history of innovation, invention and world-class education assets,” as the partnership’s website puts it.

Lyle D. Wray, executive director of the Capitol Region Council of Governments, explained the need for a common approach. “The state border between Connecticut and Massachusetts is political, but that’s not the way the economy works. People cross the state lines every day for work. We need to border bust: stop looking at the border as a barrier, and instead see it as an opportunity.”

LEVERAGING REGIONAL COOPERATION FOR FEDERAL FUNDING

Building on a decade of regional economic cooperation, the area’s three regional planning agencies were well positioned to apply for the new Sustainable Communities Regional Planning Grant from the U.S. Department of Housing and Urban Development (HUD). The three agencies partnered with nearly 40 regional, state, and city agencies and nonprofit organizations to put forward a proposal for a package of housing, education, transportation, employment, and nutrition activities advancing the “New England Sustainable Knowledge Corridor.” HUD recognized their achievement with a \$4.2 million, three-year grant awarded in 2011.

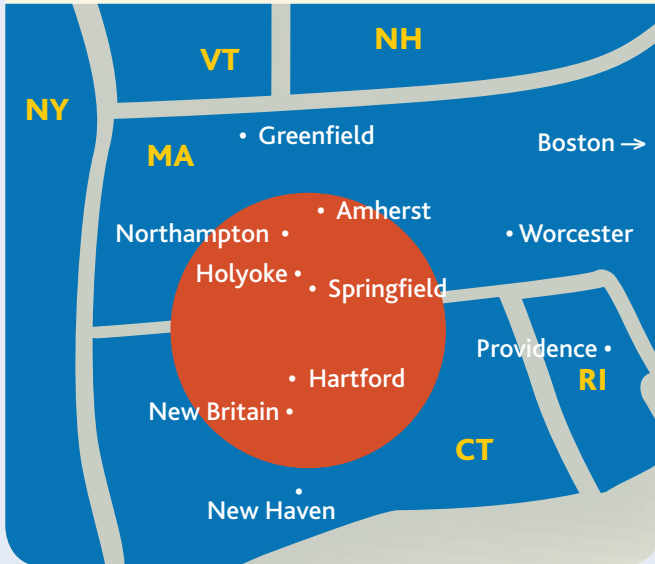
Over the course of the grant period, the partners will jointly implement projects, provide technical services, and match HUD dollars with additional funding. The consortium is pursuing a combination of “planning, doing, and measuring,” undertaking



Buses wait for passengers at the Holyoke Transportation Center in Holyoke, Massachusetts. A fire department headquarters was converted into the transportation hub in 2010. (Photo courtesy of Pioneer Valley Planning Council)

The Knowledge Corridor Spans Two States

Leaders are working together to promote growth



public outreach and capacity-building exercises, conducting special planning studies, and developing metrics on sustainability.

An overarching goal of the consortium is to connect housing, employment, and education to good-quality transportation, and one of its key deliverables will be to update and integrate existing regional plans to help achieve this goal. The final Knowledge Corridor Detailed Execution Plan for a Sustainable Region includes the following:

- Strategies to leverage the land use potential of transportation assets—including BRT and rail corridors;
- Policies to support and encourage denser, more compact, mixed-use land uses; and
- New guidelines and codes for affordable housing.

Overall, 80 communities participate in the grant's strategic planning, market analysis, and code development activities. The grant is also working to advance transit, streetscape, and other physical improvement projects in six municipalities. For example, a new multimodal transportation center is being moved forward in one low-income community. "These on-the-ground projects are helping to show citizens that this is a not a superficial effort," explained Timothy Brennan, executive director of the Pioneer Valley Planning Commission.

More generally, the members of the consortium are looking to the grant-funded work to generate new economic activity in the region. "We are hoping that the analyses conducted under the grant will stimulate interest by the private sector," noted Wray.

CREATING A TRANSIT-ORIENTED REGION

Several major transit projects, critical to the implementation of the Knowledge Corridor vision of an interconnected, sustainable, transit-oriented region, will advance over the next ten years. A ten-mile, \$567 million busway connecting New Britain and Hartford was awarded \$275 million in federal New Starts funding in 2011. The buses will use an abandoned railroad right-of-way, halving city-to-city travel times to 20 minutes. Local leaders hope that the high-frequency, well-equipped express buses will relieve congestion on Interstate 84 and be the first step toward a regional system of rapid-transit buses.

Rail links between New Haven, Hartford, and Springfield are also getting an upgrade. The project, which is receiving \$323 million in federal funding and \$162 million in state funding, will shorten trip time, improve reliability, and increase ridership by building 39 miles of new track, adding and renovating stations, and providing connections to the New Britain-to-Hartford busway. In addition, the region will receive \$70 million in federal funding for the design and construction of the "Knowledge Corridor Restore Vermonter Project," a plan for Amtrak's intercity train service. The line will create links between Knowledge Corridor cities and major northeastern metropolitan hubs.

"We've sought an emphasis on connections as a way of being competitive," said Tim Brennan, executive director of Pioneer Valley Planning Commission in the Springfield area. "The game changers are the intercity and commuter-rail proposals, which can connect the corridor with the New York City area." But land use has not been forgotten. The HUD sustainability grant funds work that is helping Knowledge Corridor partners maximize the land use and development potential of these transit investments.

TAKING THINGS TO THE NEXT LEVEL

Although the region has been a recent recipient of large federal grants, prospects for future federal funding are dimming, and local governments' ability to help is limited. State law in Massachusetts and Connecticut does not allow local-option sales taxes. As a result, the region may face challenges funding transportation projects. "There will be money problems based on the gap between what is available and what is needed," warned Brennan. "The backlog of projects—transit, highway, bridges, bike paths—has passed the billion-dollar mark." New ways of raising money will need to be explored.

Despite the funding concerns, leadership advocating regional cooperation is helping the area move forward with key transit investments and related long-term land use planning. Linking transportation improvements and land use development—as the Knowledge Corridor stakeholders are striving to do—will help maximize the value of the region's infrastructure investments.