Corridor Approaches to Integrating Transportation and Land Use

Requested by:

American Association of State Highway and Transportation Officials (AASHTO)

Standing Committee on Planning

Prepared by:

ICF International

June 2009

The information contained in this report was prepared as part of NCHRP Project 08-36, Task 86, National Cooperative Highway Research Program, Transportation Research Board.

Acknowledgements

This study was conducted for the American Association of State Highway and Transportation Officials (AASHTO), with funding provided through the National Cooperative Highway Research Program (NCHRP) Project 8-36. The NCHRP is supported by annual voluntary contributions from the state Departments of Transportation. Project 8-36 is intended to fund quick response studies on behalf of the AASHTO Standing Committee on Planning. The report was prepared by Karen Savage and Kathleen Rooney of ICF International with support from Harrison Rue, Ryan Thompson, Elizabeth Wallis, and Anna Chavis of ICF International; Marie Venner of Venner Consulting and Gary Toth.

Disclaimer

TABLE OF CONTENTS

1. Introduction

Transportation agencies nationwide are under pressure to do their part in helping America address a wider range of transportation issues than ever before. From new requirements to increasing awareness of climate change impacts on/by transportation, there is great need for interagency collaboration to address shared issues efficiently and effectively. Furthermore, ambitious integration efforts must occur within the constraints of declining revenues, erosion of the purchasing power of state departments of transportation (DOTs) funds, and increasing public and political scrutiny. Many of these issues extend beyond traditional state DOT activities and span of control.

There is an interconnection between transportation and land use that the public and local decision-makers do not often see. Yet, they frequently hold DOTs responsible for solving transportation problems resulting from local and regional land use decisions and preferred development patterns. The latter has presented a challenging context for DOTs to maintain the throughput capacity of their transportation system investments. Several states have already made forays into integrating land use and transportation decisions, and collaborating with local and regional agencies.

The objective of this research task was to identify successful innovations in integration of transportation and land use planning for transportation corridors that could be transferred to other locations, and to disseminate this information rapidly to practitioners to address their own transportation corridor problems. Key elements of the research included:

- Inventory of notable practices for integrating land use and transportation by state DOTs and other agencies who have broadened the scope of planning and design of transportation facilities in order to improve the management and function of regional transportation corridors and better serve communities;
- Documentation of the spectrum of notable practices and tools that have been used successfully; and
- Dissemination of this information quickly to state DOTs and other agencies involved in transportation and land use planning, decision-making, and investments.

This report includes the summary of the literature review, six case studies on the integration of land use and transportation, and a synthesis of the notable practices.

2. Literature Review Summary

The ICF Team ("Team") conducted an initial literature review to identify projects that integrate land use and transportation approaches. The Team looked at a broad range of examples from the transportation and land use planning and development sectors to identify approaches and tools that state DOTs, regional, and local agencies have used to integrate land use and transportation within their respective agencies, and with other agencies and entities. The initial selection criteria addressed the following questions:

- Does the case study have state DOT participation/involvement, even if the DOT is not in the lead?
- Is the project related to or did it use integrated decision-making, enhanced design, operations, and regulations to achieve integration?
- Is there some innovative aspect that makes the case study particularly relevant for use by other DOTs?
- Is there a strong linkage between land use and transportation planning?

The first round of literature review yielded a list of over 80 possible case study candidates (See Appendix A for the full candidate case study list). Using this information, the Team narrowed the list of possible candidates to identify the most promising ones for case studies. The Team focused on those projects that *integrated* land use and transportation planning and decision-making, rather than projects that only linked transportation and land use planning. For example, many state DOTs will engage a diverse set of stakeholders to collaborate on transportation solutions and offer their comments based on local land use, environmental resources, and community concerns. Sometimes localities will align their comprehensive plans according to these transportation projects or enter into agreements to that effect. Although this is a worthwhile endeavor, it only creates a link between land use and transportation, rather than true integration of land use and transportation decisions. To develop the short list of candidate case studies, the Team focused on identifying projects where state DOTs and land use agencies addressed land use and transportation issues collaboratively and simultaneously in an integrated fashion.

For the second level of review of candidate case studies, the Team evaluated candidate projects based on criteria focused on indicators of integration and implementation. The Team highlighted and prioritized candidate case studies using the criteria listed below.

- Demonstrates simultaneous land use and transportation planning, with both sets of agencies at the table creating and exploring solutions together.
- Creates a joint vision of desired outcomes across transportation, land use, and potentially environmental considerations.
- Contains a strategic implementation plan/component with defined outcomes.

- Allocates resources and government investments in infrastructure based on agreed upon desired outcomes.

The 15 candidates selected for further analysis are included in Table 1 and described in the following section. During the initial investigation, the Team discovered that *integrated* land use and transportation planning frequently can occur at a higher level than corridor planning, such as at the sub area or regional planning levels, and the results of the integrated decision making carry through to specific corridor plans. The result is that some of the identified candidates may not meet the traditional, more limited, definition of a transportation corridor, although they lay the groundwork for subsequent corridor and project-level integration. In order to comply with the stated objectives of this research, the Team selected case studies that address the larger planning framework where integration is planned and specific corridors where integration is implemented.

Many state DOTs acknowledge that "corridors" and their transportation impacts do not end at the right-of-way boundaries; to be successful in integrating transportation and land use, corridor studies must extend beyond the right of way. Where possible, the Team identified the planning framework and subsequent corridor implementation for candidate case studies. Some of the candidates had separate implementation efforts for the regional planning framework and specific corridor implementation (e.g., UnJAM 2025 and Places29); whereas others (e.g., Gateway Route 1) had concurrent sub-area planning and corridor implementation. To address these situations comprehensively, ICF proposed the following case study candidates:

Candidate Case Study Locations

Planning Framework	Corridor Implementation
Chicago Metro Agency, IL	
Denver Metro Vision, CO	Denver Blueprint and Speer Blvd. Corridor
Envision Utah, UT	Mountain View Environmental Impact Study (EIS)
Gateway Route 1, ME	
Mapping for a Millennium, WY	
NC DOT Strategic Highways Program, NC	NC 73
NJ Future in Transportation Program	NJ Route 9, 29, 57, 31/202, and 322
UnJAM 2025, VA	Places29, VA
Puget Sound Vision 2040, WA	SR 203 Corridor Concept Plan
San Diego Regional Comprehensive Plan, CA	Hillcrest Corridor Mobility Plan
Route 16, NH	
Route 17/92, FL	
Sacramento Blueprint, CA	South Sacramento Corridor, Phase II
US 24/40 Corridor Study, KS	
28th Street South Design and Construction Project, Boulder, CO	

The Team chose these candidates based on the criteria listed above. The final list of six case studies was refined to reflect:

- A mix of DOT sizes and organizational structures;
- Geographic locations across the United States;
- Different approaches to integrating land use and transportation;
- Different reasons for project initiation; and
- Likely availability of information and willingness of the agencies to participate in the case studies.

Chicago Metro Agency for Planning (CMAP), IL *(Agency Integration Completed)*

Formed in 2005, CMAP integrates planning for land use and transportation in the seven counties of northeastern Illinois. The new organization combined two previously separate transportation and land use planning organizations (Chicago Area Transportation Study and the Northeastern Illinois Planning Commission) into a single agency. CMAP is now developing the region's first truly comprehensive plan for land use and transportation – GoTo2040. The program represents successful long-term visioning and major institutional change.

www.cmap.illinois.gov/

Denver Metro Vision Plan, CO *(Completed)* - Denver Blueprint *(Completed)*

Denver Metro Vision Plan, a regional plan for growth and development adopted in 1997 by the Denver Regional Council of Governments (DRCOG), is influencing local and regional projects. Blueprint Denver is a local plan that has grown out of the regional framework set by the Denver Metro Vision Plan. Metro Vision integrates transportation, land use, and environmental concerns into a long-range regional plan to manage growth and encourage more efficient and effective transportation investment and land use in the region. The product is not just a compilation of local plans, but also a shared vision for the region, with voluntary growth areas that municipalities of the metro area agree to target.

Blueprint Denver, adopted by the city and the county of Denver, integrates land use and transportation planning at the local level. Adopted in 2002, Blueprint Denver includes specific steps to support urban centers, environmental quality, and a balanced, multi-modal transportation system. The plan is being implemented through actions such as changes to the city's zoning code to greatly simplify the code and introduce new classifications such as transit-oriented development, a new street classification system and design guidelines, and small area plans and associated capital improvements. The project helped to fast track $4 billion in transit initiatives linked to build-out of the regional transit network.

www.drcog.org/index.cfm?page=RegionalPlanning
www.denvergov.org/Default.aspx?alias=www.denvergov.org/Blueprint_Denver

Envision Utah, UT *(Completed)* – Mountain View EIS *(Completed)*

Envision Utah is a public-private partnership founded in 1997 to research growth scenarios for the Greater Wasatch Area, and to provide guidance on future development. Much of the work is based on the Quality Growth Strategy, a planning vision developed through an extensive public outreach process. Compared to a baseline scenario with typical development patterns and infrastructure, the Quality Growth scenario includes an expanded transit system, a higher proportion of multi-family housing and small-lot homes, and greater clustering of new housing in villages and towns along major roads and rail lines. Based on the Strategy, Envision Utah has supported efforts in the Greater Wasatch Area to enhance mobility, provide a diverse supply of housing and employment options, improve air quality, maintain water reserves, and protect open spaces. Envision Utah works with private developers, state and local leaders, and private citizens to encourage the prioritization of alternatives that promote livability and community preservation.

The Mountain View Corridor EIS is one practical and successful application of this localized solution. Envision Utah and the Utah Department of Transportation initiated a process called Growth Choices. The goal was to collaborate with the local government addressing land use and transportation solutions in this high growth corridor. The solution involves a phased approach, combining roadway, transit, and land use commitments from all participants.

www.envisionutah.org/ and http://www.udot.utah.gov/mountainview/index.php

Gateway Route 1, ME *(In Progress)*

Gateway 1, a long-term strategic land use and transportation-planning project for the Midcoast Route 1 region in Maine, is approximately 110 miles in length. The project grew out of the concern of Midcoast residents that Maine DOT was advancing individual and potentially damaging transportation investments without having an integrated transportation planning framework for the region. In response to the residents' desire for a more collaborative approach to address regional concerns Maine DOT initiated the Gateway 1 process. Maine DOT, in cooperation with the State Planning Office and FHWA, initiated the Gateway 1 as a forum to integrate community involvement in proactive land use and transportation planning for Midcoast Route 1. The goal of the Gateway 1 process is to preserve the integrity of Route 1 in the state highway system, while addressing growth in land use and development in the corridor and to enhance safety, transportation choice, economic strength, and quality of life along the corridor.

www.gateway1.org/

Mapping for the Millennium, WY *(Completed)*

Teton County is a resort region experiencing rapid growth in residential population and tourist population. The county must balance the concerns of varied stakeholders in accommodating the increasing growth and transportation needs. With the assistance of the Urban Land Institute and Wyoming DOT, Teton County conducted public design charrettes to develop new ideas for the reconstruction of crucial transportation corridors in Teton County. These charrettes also facilitated the development of community preservation strategies and plans for mixed-use, transit-oriented neighborhoods.

www.planning.dot.gov/Documents/DomesticScan/domscan603.htm

NC DOT Strategic Highways Program, NC *(Completed)* - NC 73 *(Completed)*

The goal of the Strategic Highway Corridors Project was to develop a consensus on a specific vision for transportation corridors and generate buy-in from a variety of stakeholders. The NC 73 Corridor, a 35-mile, two-lane corridor in the rapidly growing area around Lake Norman, in the North Carolina Piedmont area, serves the central and most urbanized third of the state. While much of the development surrounding the NC 73 Corridor is scattered among rural settings, significant suburban development and growth is occurring in the corridor. Three counties and five municipalities teamed with regional planners, businesses, and NCDOT to design a comprehensive transportation and land use plan that maintains the character of each community along the corridor, by accommodating growth in an integrated way throughout the entire corridor. This vision and comprehensive plan use access management, land use planning and strategic highway investment to shape and accommodate the increase of development along the corridor.

www.ncdot.org/doh/PRECONSTRUCT/tpb/shc/studies/NC73/

NJ Future in Transportation (NJ FIT) *(Ongoing)* - NJ Routes 9, 29, 57, 31/202, and 322 *(Ongoing Implementation)*

This study bundled together a representative sample of five of 17 NJDOT transportation and land use corridor projects, which were part of the NJFIT Program. These five included Route 9 in Ocean County, Route 29 in Mercer County, Route 57 in Warren County, Routes 31/202 in Hunterdon County, and Route 322 in Gloucester County. The team selected these corridors because they are geographically diverse, have different lengths, and are in different stages of development.

Under NJDOT's NJFIT program, planning was done in full collaboration with the communities. Instead of NJDOT controlling the process, they created a decision-making partnership where communities were part of the team directing consultant resources to create a vision for how each community wanted to evolve. Each corridor project proceeded through three identifiable stages: 1) public education and outreach to elevate public awareness and point out the difficulties of

pursuing "business as usual;" 2) community consensus-building through use of external consultants, information sharing, and shaping of shared values; and 3) community codification that involved revisions to municipal plans and ordinances, and drafting agreements that involved multiple jurisdictions.

www.state.nj.us/transportation/works/njfit/ and www.state.nj.us/transportation/works/njfit/case/

UnJAM 2025 *(Completed)* - Places29, VA *(Completed)*

The United Jefferson Area Mobility Plan (UnJAM 2025) combines the MPO long-range transportation plan with a rural area plan for five counties surrounding Charlottesville, VA. UnJAM was based on the Eastern Planning Initiative scenario plan, which identified $500 million in potential transportation savings by building in more compact, village-scaled development patterns. Staffed by the metropolitan planning agency, VA DOT, local land planners, and transit agencies, UnJAM integrated transportation planning with local comprehensive land use plans. It called for a corridor-based approach to re-engineering and investing in existing roadways while coordinating developer investments to produce a multimodal network of local streets that protect the capacity of major thoroughfares.

This process evolved into Places29, which combined the VDOT/MPO US29N Corridor Study for a 10-mile long NHS facility with Albemarle County's Places29 Framework Master Plan. The project was initiated by the MPO at VDOT Commissioner's request, and funded by VA DOT, Thomas Jefferson Planning District Commission (MPO), Albemarle County, and private developers. Overseen by a technical team of transportation, land use, environmental, and transit planners, Places29 combined land use and transportation planning into a single public process, utilizing the same consultant team and project 'branding.' It established a vision to accommodate growth along US Route 29 in a centers-based approach, coordinating Transit-Ready developer investments with a multimodal network of new streets for local travel, an expanded regional transit system, urban grade-separated intersections at key locations on US29, and a detailed access management and incident management plan. Implementation will take place through County capital expenditures, VA DOT and transit agency project programming, public-private partnerships, land use decisions, and private investments.

www.albemarle.org/department.asp?department=planning&relpage=6916
www.tjpdc.org/transportation/places_29.asp
http://www.tjpdc.org/transportation/unjam.asp

Puget Sound Vision 2040, WA *(Completed)* - SR 203 Corridor Concept Plan *(Completed)*

VISION 2040 is a regional strategy to accommodate the additional 1.7 million people and 1.2 million new jobs expected to arrive in the Puget Sound region by the year 2040. Vision 2040 updated the previous Vision 2020 and Vision 2030 plans. VISION 2040 is an integrated, long-range vision for the future that lays out strategies for maintaining a healthy region that promotes the well-being of people and communities, economic vitality, and a healthy environment. It

contains an environmental framework, a regional growth strategy to allocate future growth, six policy sections guided by overarching goals, implementation actions, and measures to monitor progress. VISION 2040 recommits the region to: 1) focus growth in urban areas, concentrated in centers and compact communities; 2) strengthen linkages between land use and transportation planning; 3) preserve and protect rural and resource lands; and 4) address the needs of a diverse population. The SR 203 Corridor Concept Plan was the pilot project for the Rural Town Centers and Corridors Program, which emphasizes context-sensitive land use and transportation visions across multiple jurisdictions.

http://psrc.org/projects/vision/index.htm
http://psrc.org/projects/rural/sr203final_pt1.pdf

San Diego Regional Comprehensive Plan, CA *(Completed)* - Hillcrest Corridor Mobility Plan *(Completed)*

The Regional Comprehensive Plan (RCP) serves as the long-term planning framework for the San Diego region. It provides a broad context in which local and regional decisions can be made to move the region toward a sustainable future. The Plan serves as an example of integrated planning, advance mitigation planning, highway improvements, and transit center enhancements. The RCP better integrates local land use and transportation decisions, focuses growth, and provides alternatives to the present development pattern.

The Hillcrest Corridor Mobility Plan covers a twenty-five block corridor from downtown San Diego (on the south) along the west side of Balboa Park, to a medical center overlooking Mission Valley (on the north); and includes Fourth, Fifth, and Sixth Avenues. The City of San Diego and San Diego Association of Governments (SANDAG) are developing alternatives to improve parking, pedestrian mobility, and bus service availability.

www.sandiego.gov/planning/community/profiles/uptown/hillcrest/index.shtml
www.sandag.org/index.asp?projectid=1&fuseaction=projects.detail

Route 16 Corridor, NH *(Completed)*

The Route 16 Corridor is a 156-mile corridor that contains 5 cities, 24 towns, and 8 unincorporated areas. The project began in 1994 as a collaborative approach among state and local communities to develop a long-range solution to developing a transportation system that would integrate with land use planning for the benefit of the community.

New Hampshire DOT used working groups and community meetings to facilitate communication with local government, businesses, and citizens. NHDOT successfully adopted this approach to land use and transportation integration for two other corridor studies, four community pilot studies, and a number of other community and regional projects.

Route 17/92, FL *(Completed)*

The US 17-92 Corridor Redevelopment Plan, adopted by Seminole County and the cities of Casselberry, Lake Mary, Sanford, and Winter Springs in December 1997, set forth long range community objectives designed to improve the physical characteristics and functionality of this primarily commercial 12 mile corridor in Seminole County. Four strategic redevelopment principles formed the foundation for the Redevelopment Framework for Fern Park, including: 1) respect market conditions, 2) create "great streets," 3) level the redevelopment playing field, and 4) identify "catalytic" infrastructure investments. The Redevelopment Plan was updated in 2006 to include individual corridor plan reports and sub-district action plans for each jurisdiction, specifically in Fern Park. Many projects have been undertaken as part of this redevelopment plan, including overlay districts, and multimodal transportation improvements.

www.businessinseminole.com/ecodev/1792_redevelopment.asp

Sacramento Blueprint, CA *(Completed)* - South Sacramento Corridor *(Phase I Completed, Phase II in Progress)*

In response to rapid growth in Sacramento, the Sacramento Council of Governments developed the Blueprint Project, a regional visioning project to integrate a GIS-based community indicator model and community input to determine the best options for regional growth. Project development involved local, regional, and state agencies, as well as representatives of public and private sector entities. The goal of the project was to develop an integrated plan for regional growth through the year 2050. Caltrans, the California Department of Housing and Community Development, the California Energy Commission and a variety of public and private sources, fund the project. PLACE3S, a GIS-based community indicator, was used in conjunction with a regional land use model and enhanced travel demand model that provided real-time feedback in MPO-led public workshops on the effects of different land use options on transportation, open space, and other conditions. The program exemplifies simultaneous visioning and planning in preparation for regional growth planning. Caltrans has replicated the Blueprint process in all regions statewide, which has influenced development regionally.

Within this region, the South Sacramento Corridor Project proposed an extension of the light rail system from the end of South Line Phase 1 at Meadowview Road, approximately four miles to Cosumnes River College. Light rail will help serve the region's growing population by providing reliable transit service, reducing automobile congestion, and decreasing air-polluting emissions.

www.sacregionblueprint.org/sacregionblueprint/home.cfm and www.slp2.org/

US 24/40 Corridor Study, KS *(Completed)*

The US 24/40 Corridor Study involves development of a 30-year corridor master plan for current and future land use and transportation integration along a two-mile-wide corridor in Leavenworth County, KS. The study's objectives are to:

- Focus on corridor mobility by integrating current and future land uses associated with continued area growth.
- Establish a realistic corridor plan for mobility, land use, corridor identity that results in a coordinated and sustainable partnership between KDOT, MARC, Leavenworth County, Tonganoxie, and Basehor.
- Develop a 30-year corridor master plan that will address KDOT's transportation corridor management requirements, a land-use and identity plan, an access/traffic management plan, and coordination of planning and zoning regulations between jurisdictions.
- Create a public involvement/visioning plan that will achieve informed consent among the public and other stakeholders.

www.marc.org/transportation/us2440/

28th Street South Design and Construction Project, CO *(Completed)*

The 28th Street Improvement Project is a multi-modal improvement project developed and designed by the Colorado community in 2000. The project is ongoing and construction is continuing in certain areas of the corridor. The funding for this corridor comes from private, state, and federal entities. The corridor serves as a gateway to Boulder for visitors, university students, residents, and commuters. The project includes transportation, safety, and aesthetic enhancements such as better lighting, new transit superstops, bus service, bike lanes, sidewalks, and multi-use paths.

For the first time, bicycle and transit facilities and service exist on the south section of 28th Street and to the east in an area formerly occupied by a large shopping mall. The improvements to 28th Street represent a shift towards a strategic approach to the corridor that completely integrates land use and transportation planning to increase street connectivity and access by alternate modes. Businesses enjoy improved access, and the redevelopment has encouraged new businesses and enhancements in the area. This project exemplifies re-connectivity, multi-modal enhancements, and street redesign.

www.ci.boulder.co.us/index.php?option=com_content&task=view&id=294&Itemid=1206

3. Case Studies on Integrating Land Use and Transportation

The ICF Team reviewed 80 possible candidates, and narrowed them down to 15 of the most promising candidates. The NCHRP Panel approved the following six case studies further research:

1. The Chicago Metropolitan Agency for Planning, IL;
2. Envision Utah and the Mountain View Environmental Impact Statement (EIS), UT;
3. Gateway Route 1, ME;
4. NJFIT: Future in Transportation program, NJ;
5. UnJAM 2025 and Places 29, VA; and
6. MetroVision and Blueprint Denver, CO.

The Team collected the following information for each case study:

- Background Information about what was done, in what context; and why was it done—what was the nature of the problem(s) to be addressed; what it cost; and how it was funded;
- Process - who was involved – state DOT and other agencies, community representatives, and other entities; who initiated the effort—state DOT, local agency, local community, private developer or other entity; when was it done, and how long it took to complete the process;
- Outcomes and Notable Practices about the results of the effort, and the extent to which it resulted in lasting change;
- Lessons learned about what to do, what not to do, and expected transferability to other situations.

As part of this process, each case study team completed background research on each case study and conducted a minimum of four interviews for each case study with relevant participants and experts representing different viewpoints.

Although the integration of land use and transportation can be complicated, the case studies and notable practices synthesis illustrate that transportation agencies are empowered and fully capable of succeeding in integrating land use and transportation. Transportation agencies, despite fiscal and programmatic constraints, are expected to address many of these non-traditional transportation issues. These case studies help to show other agencies how they can do so.

4. Analysis of Notable Practices

A comprehensive analysis of the different practices in each case study yielded several overarching themes, which have been summarized below. More detail is provided in the individual case studies.

Local communities will not always resist state DOT involvement in land use planning.

Local communities can and will welcome state involvement in land use planning. Cooperation depends on the approach of the state DOT and how the DOT addresses local concerns. The success or failure in collaborating with communities on land use planning depends on how the community perceives the state's involvement and attitude. In Utah, the state brought in Envision Utah to help create land use and transportation scenarios, building on the broad base of support and credibility of Envision Utah. In the Maine case, the state and local communities along the state route are full partners in crafting a plan for the corridor. The DOT spent the necessary time up front to build trust and good working relationships, which have been essential in developing a plan supported by the communities and the state DOT. In Virginia, the state played a leading role in engaging communities and other agencies to cooperate and contribute to the planning process. The key is for the state to approach communities in a non-threatening way, often by working through existing regional entities where the localities and state agencies have established relationships.

Land use and transportation planning and decision making activities occur whether DOTs or other agencies seek to integrate them.

Just because a transportation agency understands that land use decisions are local may not mean that their transportation system is not coordinated with land use, or that there are no land use impacts from transportation decisions. State elected officials, MPOs, and DOTs alike are hesitant to discuss land use out of their fear that localities may react poorly to perceived state interference in this local domain. Localities can, and in most cases do, welcome state or regional leadership and facilitation. They just do not want outsiders to take control and force specific solutions. The presumption that transportation agencies cannot influence land use is false. They do so by collaborating with communities, or through direct and indirect impacts on land use arising from transportation investment decisions.

Although this was a lesson learned specifically from the Gateway Route 1 initiative, it was present in most of the case studies – either the fear of transportation agencies becoming involved in land use decisions or an attempt at a solution to address this fear. The Gateway initiative shows that the manner of participation by state agencies is a key determinant. What the Gateway initiative demonstrates is that even in a strong home rule state, if the DOT or other state agencies approach their communities with respect and a spirit of collaboration, those communities are responsive to outside influence and support to make the integrated transportation and land solutions work.

Collaborative and integrated solutions are achievable, especially if agencies start with a blank slate.

Many interviewees mentioned that if the stakeholders involved in the planning process left their preconceived ideas about the solution behind, then a new and perhaps better solution was possible. CMAP began with an entirely new mandate of integrating land use and transportation, and other important issues, while integrating actions within the agency as an institution. In the Growth Choices process, a key stakeholder discussed the blank slate as the only way to see the linkages between the impacts of transportation and land use decisions. In the Gateway 1 initiative, Maine DOT refused to allow discussion of possible solutions until everyone agreed on the problems in the corridor. For the oldest projects (in the NJFIT example), some of the integrated solutions have been fully implemented. Similarly, with UnJAM and Places29 in Virginia, the DOT has begun to implement some of the initial recommendations of the transportation plans. In Denver, this integration has been codified through the street classification system, which identifies land use and transportation standards for different types of streets. Each one of these case studies illustrates how the integration of transportation and land can occur through different situations/locations and through different mechanisms.

The integration of land use and transportation can happen in any organizational structure or level and apply to a wide variety of transportation contexts.

The wide range of case studies here illustrate that the integration of transportation and land use can occur at different levels and in different contexts. The case studies ranged across the country from the Northeast (ME) to the Mountain states (CO) and Southeast (VA). They also covered a wide variety of development contexts from urban (Chicago and Denver) to rural (ME), or all of the above (UT, NJ, and VA). They also covered different levels of agency initiatives. CMAP is an MPO-level agency in an urban area that will be integrating land use and transportation in every project and for all regional issues. In Utah, the Mountain View EIS was initiated at a state level and applied to a very traditional transportation agency activity (EIS). However, integrated land use and transportation scenarios were developed and evaluated; and the solution will be implemented at both local and state levels. Although Gateway Route 1 began as a state DOT-led initiative, it is gradually transforming into a regional corridor based framework. NJFIT is an overarching state DOT program with consistent staff statewide. UnJAM 2025/Places 29, is also an MPO led initiative, but in a much smaller community two hours outside of Washington, DC. In Denver, while it was an MPO vision much of the implementation innovation is occurring at the City of Denver. The research demonstrated that it is not necessary to have enabling or special legislation or a unique situation to succeed in integrating land use and transportation planning and decision-making.

State legislation can provide the structure needed to support land use and transportation integration.

The most obvious example is the CMAP process in Chicago where state legislation mandated the integration of the Northeastern Illinois Planning Commission (NIPC) and the Chicago Area

Transportation Study (CATS). Another example is the Sensible Transportation Policy Act (STPA) passed by the Maine legislature, which directed the Maine DOT and the State Planning Office to draft a rule to link land use and transportation processes of the STPA to those for the Comprehensive Planning and Land Use Regulation Act. The legislation codified the premise that land use and transportation planning must be done simultaneously to protect transportation safety and mobility while enhancing communities. Another example is the New Jersey case, where the pilot corridor projects involved NJDOT and the NY Office of Smart Growth, and frequently the NY Office of Environmental Protection, and municipal compacts or partnership agreements.

Giving travelers more options is one of the most common solutions.

The principles of the strategy include saving room for pedestrians and bicyclists, creating more compact, mixed-use downtowns with connected street networks, connecting transportation modes, particularly around transit, and considering that congestion in centers can be good.[1] These strategies support multi-modalism, ultimately reducing traffic congestion and creating a sense of place for the community. Additional toolbox strategies include Build for Transit, creating more connections, providing better access, designing roads in context with their surroundings, and calming traffic. The solutions also tend to help DOTs control access and preserve past and current investments in the highway system. In Utah, they built a multi-modal, balanced transportation system into the regional Vision and subsequent plans, rather than as mitigation or plans to support an adopted land use plan. Land use and transportation were evaluated in integrated scenarios, ranging from a low density, auto dependent scenario to one with compact, dense development and an extensive transit component. Maine followed a similar approach with the three integrated scenarios developed for their Steering Committee to evaluate.

Any worthwhile process will take time, but is incredibly valuable over the long term.

In many regions, communities are used to competing with each other, not cooperating. In Maine, New Jersey, Virginia, and Denver, the sponsoring agencies took the time to earn the community's trust, and build consensus. This investment led to mutual understanding and shared decision-making. Sometimes it may appear that a year or more for consensus building is a luxury, but patient upfront collaboration can lead to eventual widespread support for the right project, in the right place, and to cost savings for the design and construction of projects that are supported by the community. Regions that have an established agency (typically a regional planning agency or council of governments) that incorporates MPO and rural transportation planning, rideshare and transit system coordination, housing programs and land use planning will have a head start on an integrated approach – even when actual land use decision-making is retained by the individual localities.

Transportation agencies have the tools necessary to succeed at integrating transportation and land use.

In addition to identifying the most notable practices, the project team also explored the breadth of solutions used. As evidenced in the table below, each of the case studies used a variety of practices to achieve their integrated solutions. Several strategies are used in all case studies (or almost all) and worth mentioning. These include:

- Access management (in design and operations),
- Integrating land use and facility design to address capacity, aesthetics, safety, and multimodal issues,
- Multimodal options,
- Transit improvements,
- Rezoning for increased density,
- Development regulation to match corridor form, and
- Controlling land uses adjacent to transportation facilities.

Agencies do not necessarily need new tools, but can use the tools at hand to integrate land use and transportation at the corridor level. While it might be easier from an organizational point of view to integrate land use and transportation planning fully in one agency, as in the Chicago case, it is possible to integrate land use and transportation planning successfully and decision making under a variety of organizational structures.

Spectrum of Practices (P=Planned; I=Implemented; C=Considered but not implemented)[1]

		CMAP, IL	Envision Utah/Mountain View EIS, UT	Gateway Route 1, ME	NJ FIT	UnJAM 2025/Places29, VA	MetroVision/Blueprint Denver, CO
Design	Rightsizing the road		P				
	Access Management	P	P	P	P, I	P, I	P
	Integrating Land Use and Facility Design to address capacity, aesthetics, safety, and multimodal issues		P	P, I	P	P, I	P, I
	Aesthetic improvements to better integrate transportation facilities			P	P	P	P, I
	Provision for multimodal options	P, I	P	P	P	P, I	P, I
	Covering/Depressing of roads to reconnect neighborhoods						
	Creating Redundancy/Parallel Roads in the network		P	P	P	P, I	
Operations	Intelligent Transportation Strategies	P			I		P
	Variable priced managed lanes	P	C				
	Ramp metering with bypass lanes for HOVs						
	Overall freeway land management		P				
	Access management	P	P	P	P, I	P	
	HOV lanes on arterials						

[1] This is an adapted table from the NCHRP 8-36-86 work plan, supplemented by results from the literature review and case study results.

Services / Programs	Transit Improvements	P	P	P		P	P
	Commute Trip Reduction Programs	P					
	Park & Ride lots linked to HOV lanes	P					
Land Use	Rezoning to get TOD, higher densities, and mixed use clustering.		P, I	P, I	P, I	P	P, I
	Development regulation to match corridor form		P, I	P, I	P	P	P, I
	Growth management		P, I	P, I		P	P, I
	Concurrency requirements	P		P, I			P, I
	Joint use of Park and Ride lots and development		P				
	Controlling land uses adjacent to transportation facilities		P, I	P, I	P	P	P, I
	Protecting adjacent land use from undesirable aspects of transportation facilities		P, I	P, I		P	P, I
	Transfer of Development Rights programs			P	P		
Other	Intergovernmental Agreements for Reciprocal Action		P, I	P, I	P		I

Notable Practices

Some of the most valuable and noteworthy practices are summarized in the following section.

- **DOT funding of local studies for integrated planning or Smart Growth.** In the NJFIT program, the planning was done in full collaboration with the communities, which were allowed to fully direct consultant resources in creating a vision for how each community wanted to evolve. With NJFIT, each corridor project proceeded through three identifiable stages: 1) public education and outreach to elevate public awareness and point out the difficulties of pursuing "business as usual;" 2) community consensus-building through use of external consultants, information sharing, and shaping of shared values; and 3) community codification that involved revisions to municipal plans and ordinances, and drafting agreements that involved multiple jurisdictions. This may be contrasted with some other DOTs' corridor planning approach in long range planning, in which the DOT directs the consultant resources and regional planning agencies are asked to approve results.

- **Using public involvement and outreach to educate communities about the land use and transportation connection.** DOTs, MPOs, or corridor planning groups can draft "myth-busters" to help the public understand the land use and transportation connections, as the Maine DOT Gateway 1 Corridor planning group did, to build more support for the Gateway 1 vision and implementation. NJFIT and Denver's Blueprint program offer planning resources on their websites that address some of these issues as well.

- **Leading DOTs and MPOs have spent time and resources, either through programs like NJFIT or through investment in future scenario planning and consensus building tools like MetroQuest, to educate communities about tradeoffs and implications of different investment strategies, including consideration of mega-trends**. In New Jersey, the NJFIT program is:

    - Helping communities to understand how codes, zoning and other ordinances can steer development into unsustainable patterns.

    - Providing technical assistance and toolkits to help communities create a codified, share vision for the community. [2]

    - Establishing a statewide focus on integrated land use and transportation helps to promote future project successes strategically.

  In Denver and Chicago, *MetroQuest* is allowing advisory boards and the public to share values and explore investment scenarios and implications on the fly, coming to consensus and understanding about tradeoffs.

- **Relating mobility to community form**. Denver's Living Streets program, street classification, and re-zoning efforts have helped relate mobility to community form. NJDOT initiated a Mobility and Community Form (MCF) program to help communities plan future transportation and land use. MCF planning emphasizes the connections between the local system and the design of community facilities, buildings and open space. This program is supported by NJDOT and the Municipal Land Use Center at the College of NJ.[3] The program helps communities transition from traditional zoning in master plans to a more integrated form-based development code that links land use and transportation. The approach encourages linking the local grid to the design of community facilities, buildings and open space.[4] NJDOT developed a guidance resource for communities to use to incorporate these strategies into their master plans.

- **Focusing on "System Wellness" and a regional approach that identifies challenges for the overall transportation network rather than tackling specific segments or improvement opportunities one at a time or in isolation.** NJFIT is designed to focus new investment on keeping our transportation system healthy rather than waiting for it to deteriorate, and then doing the infrastructure equivalent of major surgery. This focus on "system wellness" means more smaller projects that are synchronized with county and

local transportation systems and land use plans that can be implemented faster through state, regional and local partnerships. It is a "faster, better, cheaper" approach to new capital investment."[5] The goals of NJFIT are 1) *Affordable* transportation solutions that increase community satisfaction. 2) *Sustainable* transportation solutions that break the sprawl cycle with integrated transportation and land use, and 3) *Deliverable* transportation solutions that satisfy the needs of all parties involved. [6]

- **Leading DOTs and MPOs are building institutional arrangements and processes for decision-making that allow regional residents to address transportation, land use, and environmental issues collaboratively**. In Maine, this forum has already led to smaller voluntary localized guidelines that support integrated planning goals and help to achieve corridor objectives. Through the future Memoranda of Understanding (MOU) in the alternative institutional arrangements, the localities are codifying agreements that help to implement a transit-oriented corridor via local laws, regulations, and comprehensive plans.

- **Explore community values in depth to build on them and find consensus**. Maine DOT conducted an "Attitudes Survey" to help build the collaborative process and guide the vision and implementation of the Gateway 1 initiative. The Midcoast residents' values guided the solutions, and ultimately, their ability to be implemented. Over 500 randomly selected residents across the region were asked about specific values related to property rights, governmental regulation, home rule, inter-local cooperation, economic development, scenic quality of the corridor, and choice of transportation. This information helped create a Gateway 1 specific solution with messages tailored to each community.

- **Indicators help citizens and decision makers identify which strategies align with the community's top values and priorities**. In Chicago, CMAP is working with stakeholders to refine and develop a list of indicators that will be publicly accessible via a web tool for decision makers to create a "personalized dashboard" web interface. This will allow decision makers to tailor a website to track the indicators most important to them and provide real time updates on the data linked to that specific indicator. CMAP is working with *MetroQuest* to allow participants to examine the impacts of strategies associated with projected scenarios to track progress and evaluate effects of different strategies as part of the scenario evaluation process of the GoTo2040 process.

- **DOTs and MPOs have created incentives and pursued state legislation or bond initiatives to implement integrated planning and sustainability programs.** Maine DOT and NJ DOT have taken this approach, and Virginia has to a certain extent. CMAP has pursued bond initiatives to create financial incentives for local governments to support desired development approaches. In Maine, municipalities that develop plans using the new Sensible Transportation Policy Act guidelines are eligible for transportation planning assistance and other investment incentives such as bonus

prioritization points for Maine DOT's competitive programs and funded highway reconstruction and mobility project, and incremental reductions in local match requirements. NJDOT emphasizes that state and federal transportation funding to implement transportation improvements is linked to the municipality's willingness to embrace integrated land use and transportation principles in master planning and zoning ordinances.

- **A number of progressive MPOs and DOTs are moving forward on project selection based on the compatibility of projects with a regional or statewide vision, including performance indicators that go beyond transportation**. This is a key strategy in shifting project selection from political or geographic distribution to a performance based approach, based on community priorities and values. While DRCOG has been a leader in pioneering points for compatibility with the regional Metro Vision plan, some municipalities have indicated concerns about the process. CMAP say the projects will be selected based on their compatibility with a regional vision, but do not say how this will be accomplished.

- **DOTs have found success in pressing the land use connection and a quid pro quo of local investment in land use decisions that support multiple modes and help preserve the DOTs' highway capacity investments**. NJDOT shares the message that "communities that want to have a say in transportation must let transportation have a say in the community's land use." Maintaining this *quid pro quo* message up front is an important tool to establish a message that compromise is essential.[7] Completing a well-connected network of roadways parallel to major highways, with better connections within and between neighborhoods, was a key transportation principle advocated in the New Jersey example as well as in the Virginia case. Solutions in both states included well-executed design details for pedestrian friendly streets, bike lanes and trails, transit stops, safer intersections and pedestrian crossings.

- **Recognizing that streets that are designed to balance transportation modes and support walking and biking is a powerful indicator of public intent and community values to support more human-scale, compact, mixed use development**. *Blueprint Denver* and Denver's *2008 Strategic Transportation Plan* support these objectives and a more vibrant and complete street and adjacent public right-of-way for all users by aiming for specific streetscapes, balancing pedestrians and other travel modes with adjacent land use and buildings that frame and enclose the street corridor.

Chicago Metro Agency for Planning

At a Glance

Lead Agency:

Chicago Metro Agency for Planning (CMAP)

Participating Agencies and organizations:

- CMAP: The Illinois Department of Transportation, the Regional Transportation Authority, and the Illinois State Toll Highway Authority. GoTo2040: Metropolitan Mayors Caucus, the councils of governments, advocacy organizations such as the Metropolitan Planning Council, Chicago Metropolis 2020; the Center for Neighborhood Technology, the Openlands Project, and Chicago Wilderness; business groups, and more.[8]

Timeline:

- CMAP: Since 2005 and ongoing. GoTo2040: CMAP is leading a six-step process to develop the GoTo2040 plan, which began in Fall 2007 and will extend through Fall 2010.

Resources and funding sections:

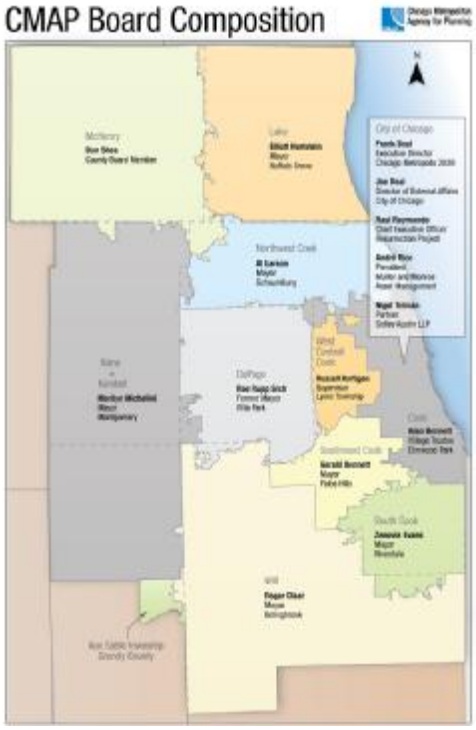
- Budget - $17m budget, the majority from US DOT ($10M) and state of Illinois ($4M) the rest from carry-over, fees/sales, local contributions, EPA, foundations and non-public agencies, and other public agencies.[9] Goto2040: $3.5 million in the CMAP budget is reserved for a Regional Comprehensive Planning Fund for the fiscal year planning activities for GoTo2040.

In 2005, the existing regional planning organization, Northeastern Illinois Planning Commission (NICP) and the transportation planning agency, Chicago Area Transportation Study (CATS) were merged at the direction of the state legislature. The new comprehensive agency became known as the Chicago Metro Agency for Planning (CMAP). This consolidation was enacted to accomplish the region's aim to integrate land use and transportation. Regional leaders concluded that this was needed to accommodate the additional 2.8 million residents and 1.8 million jobs anticipated for the Metropolitan Chicago Region by 2040.[10]

From the beginning, CMAP recognized that a regional vision is essential to guide future growth and is the foundation for the Chicago area's first truly regional comprehensive plan: GoTo2040. The plan will go beyond traditional land use and transportation performance measures and incorporate broader goals such as health and human services. Scheduled for completion in the fall of 2010, it will set the policies and strategies that will guide growth and development in the region through 2040.

Notable practices include:

- *Creating a completely new integrated agency and breaking down the barriers between the former ones.*
- *Making the case for a regional vision and getting the best input possible.*
- *Full, active, and collaborative involvement of individual municipalities to align and input municipal plans/needs into the regional vision.*
- *Leveraging Chicago's intellectual capital.*
- *Assessing Developments of Regional Importance*



CMAP Region[11]

Background

Many different nonprofits and advocacy groups in Chicago had expressed an interest for some time in consolidating Chicago's planning and land use organizations: Chicago Area Transportation Study (CATS) and Northeastern Illinois Planning Commission (NIPC). After CMAP was created, it took over the traditional MPO responsibilities from CATS. CMAP still maintains the traditional relationship with Illinois DOT (IDOT), which includes the DOT's involvement and approval of the regional transportation plan and subsequent inclusion in the state transportation plan. CMAP covers the greater metropolitan Chicago area, including Cook, DuPage, Kane, Kendall, Lake, McHenry, and Will Counties. A legislative requirement in 2005 officially integrated the two organizations into a comprehensive regional planning agency for the seven counties[12] of northeastern Illinois. The legislative goal, per Public Act 095-0677 *Regional Planning Act* is "…[t]o effectively address the development and transportation challenges in the northeastern Illinois region." CMAP is responsible for developing and adopting a funding and implementation strategy for an integrated land use and transportation planning process for the northeastern Illinois region, which includes:

- Developing a comprehensive framework for the region's future through long-range regional plans and strategies;
- Providing high-quality information and analysis through coordinated technical assistance to facilitate regional decision making; and
- Building consensus to identify and advocate for regional priorities.[13]

CMAP takes a regional approach with an understanding that a consolidated planning agency can most effectively manage public and private investments.[14] Specifically, CMAP focuses on regional issues in these substantive areas: research analysis, land use, transportation, economic and community development, environmental and natural resource, housing, and human services. While CMAP acknowledges that land use is usually locally determined, the organization pursues the following strategies within land use and transportation:

Transportation:

- Improve analytical tools for planning and programming.
- Develop regional transportation financial plan (adequacy of funding to meet identified needs for regional agencies in all modes).
- Use a robust zero-based financial forecasting model.
- Develop incentive-based transportation planning and programming consistency with the regional plan.[15]

Land Use

- Place local land use decisions in the larger regional context, review local plans, and advise on projects with regional significance.
- Initiate the GoTo2040 process for regional planning.
- Develop tools to help communities implement the regional plan and provide technical assistance to help them make more informed land-use decision through coordinated planning.
- Focus on communication, outreach, and engagement efforts that are critical to ensuring coordination between regional and local planning.
- Use scenario modeling to strengthen the functional links between land use and transportation, and other regional issues.
- Facilitate planning processes and partnerships across jurisdictional boundaries.
- Develop a regional reporting framework with accountability measures and other indicators to gauge success.[16]

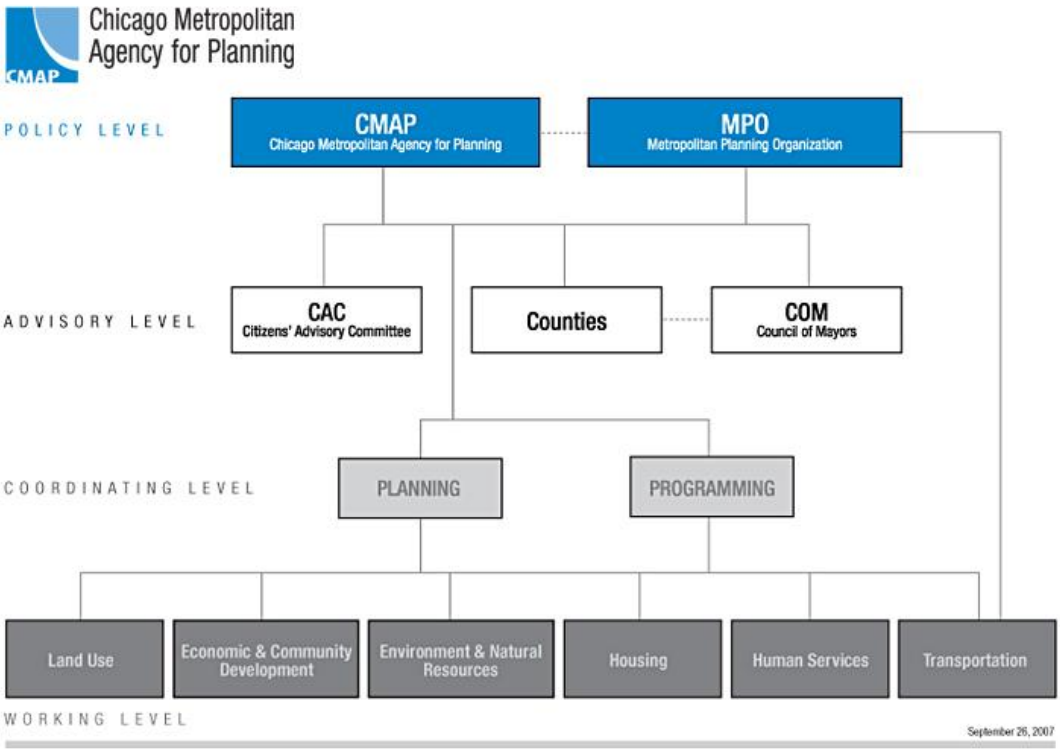
CMAP is leading the GoTo2040 planning campaign to develop and implement strategies to address growth's serious implications on quality of life -- including transportation, housing, economic development, open space, the environment, and natural resources.[17] The general purpose of the GoTo2040 plan is to create a comprehensive plan, guided by a community vision that will lead growth and development through the rest of the century. The plan will integrate components from the previously existing land use and transportation plans, as led by CATS and NIPC, and emphasizes public participation in plan development.

Process

Consolidation of CMAP

The process of substantively integrating two separate regional agencies is complex and still ongoing. Some of the more organizational activities have already occurred, such as consolidation of employee benefits, transferring the enabling power to the CMAP, and the creation of a strategic plan to meet the legislature's intent.[18]

The organizational structure of CMAP is also integrated with four levels (policy, advisory, coordinating, and working level). The policy level focuses on the strategic direction of the agency. The advisory levels include invested stakeholders (council of mayors, counties, and citizens) to leverage their knowledge and help to support implementation of regional initiatives at a local level. The purpose of the coordinating level of planning and programming committees is to achieve integration of the six focus areas and ensure appropriate review and analysis; planning focuses on the longer-term issues whereas programming is in the near term. [20]



CMAP's Committee Structure [19]

The coordinating level of planning and programming oversees the six working level committees: land use, economic and community development, environment and natural resources, housing, human services, and transportation. Each working committee is composed of CMAP staff and a variety of stakeholders. For example, in the environment and natural resources working committee, the following entities are represented: academia, state and local federal agencies (e.g. US Fish and Wildlife Services, Illinois Department of Transportation and US EPA), local government and environment and land management advocacy groups (e.g. Sierra Club).[21] The goals of these working committees are to provide guidance, expertise and input to the CMAP board on issues of regional importance related to the committee.

To achieve the overarching policy integration between land use and transportation planning, a joint memorandum of understanding (MOU) exists to between the MPO Policy Committee and

the CMAP Board, which covers the working relationship with regard to transportation planning and programming in this area. This overlapping of policy agencies is required to meet the federal requirements for transportation planning. The MOU allows for the integration of CMAP to exist without jeopardizing federal monies for transportation. Note also that CMAP is continuing to try to get bonding authority in order to offer financial incentives to support its project.[22]

Development of the GoTo2040 Plan

CMAP is leading the GoTo2040 planning process to create a comprehensive plan to guide growth and development decisions for the region through the rest of the century. A six-stage planning process began in the Fall 2007 and is scheduled to be completed in Fall 2010. The entire process involves substantial public participation and consensus building among community stakeholders. The six-step process includes:

- Step 1: Develop a regional vision,
- Step 2: Understand existing conditions,
- Step 3: Evaluate potential planning strategies,
- Step 4: Choose a preferred future scenario,
- Step 5: Choose major capital projects, and
- Step 6: Communicate final plan.

As of February 2009, CMAP had completed Step 1 (Develop a regional vision) and was working on Steps 2 and 3 (Understand existing conditions and Evaluate potential planning strategies).

Step 1: Develop a Regional Vision: CMAP began development of a regional vision in the fall of 2007. CMAP built on previous work completed by CATS and NIPC, specifically CATS' 2030 Regional Transportation Plan and the NIPC Common Grounds Framework Plan. Working committees from CMAP reviewed these reports and determined which policies and strategies were most relevant to the new vision. After developing an initial framework for the vision, CMAP held visioning workshops to integrate public feedback and revised the vision accordingly. At one workshop, which included over 150 regional business and agency leaders, participants used keypad-polling devices to evaluate the plan, which included a variety of indicators. CMAP sent out a survey, developed an interactive website, and held public meetings to involve residents and partner agencies.

The CMAP Board approved the vision in the summer of 2008 and the resulting work product is a 20-page document featuring photos and quotes from the community surveys. The vision features several common themes, including quality of life, equity, and sustainability. For example, participants expressed the following desires for the region by 2040:

- Region should be known for its sustainable planning practices,
- Region should be making decisions with a consideration for environmental health, energy use and water supply,

Pictures Taken By Community Members as part of GoTo2040 Visioning[23]

- Region should have equitable housing systems, and
- Region should be characterized by government coordination and civic involvement.[24]

This regional vision is an expression on the public and stakeholder's expectations and hopes for the region.

Step 2: Understanding Existing Conditions: With the development of a regional vision complete, CMAP began work on Step 2 (Understanding existing conditions) by preparing a series of reports on the current state of important issues in Chicago like sustainability and redevelopment. These reports include Regional Snapshots and Strategy Papers. The purpose of both types of reports is to identify the current state of the region's growth and development with quantifiable data. Both types of reports serve also as education tools for the community and stakeholders.

- The Regional Snapshots examine trends in subjects, for instance, infill development, and identify priorities for change based on those trends. CMAP issued its first Regional Snapshot in February 2007 that serves as an overarching summary of quantifiable results related to population, natural resources, transportation, and housing data.[25] Since then, CMAP has issued two other reports: an Infill and Redevelopment Regional Snapshot and a Sustainability Regional Snapshot. Pending Regional Snapshots include a Planning Impacts of Latino Population Growth Regional Snapshot Report, a Jobs-Housing Balance Regional Snapshot Report, and an Aging Population Snapshot report. These reports reflect issues of regional importance that CMAP prioritizes in its plans.
- CMAP also developed strategy reports on specific issues, like context sensitivity and public transportation, which provide information on the effects of the implementation of these strategies if they are chosen for the region. Many of the strategies will be incorporated into potential scenarios for the regional plan as a part of Step 3 (Evaluate strategies).[26] CMAP has published 23 Strategy Reports so far and plan to publish an additional 29 reports. The list of Strategy Reports is constantly being updated depending on the interests and needs of the working committees.

The strategy papers and regional snapshots are published quarterly and posted on www.goto2040.org to serve as an educational tool for the community. As a part of Step 2, CMAP is also doing research on scenarios in order to begin determining potential scenarios to evaluate.

Step 3: Evaluate Strategies: Step 3 elaborates on the research completed in Step 2 by developing potential strategies and scenarios from which the community may choose. CMAP has determined that there will be three scenarios to choose from and one reference scenario.[27] While the potential planning strategies are still under development, the strategies that CMAP has drafted can be roughly categorized according to the following descriptions:

- Trend scenario (reference scenario)
- Low capital investment/preservation of open space
- Infill and infrastructure reinvestments
- Innovation – technology based[28]

None of these solutions is meant to be a panacea for development and land use; rather each option is meant to provide at a minimum something that will appeal to all parties.

Step 4: Choose a Preferred Scenario: Step 4 will be to develop a preferred scenario. As of February 2009, CMAP has not started public involvement for this step. The scenario evaluation process will be similar to that of Envision Utah.[29] Both Envision Utah and GoTo2040 involve workshops and public surveys to develop a preferred scenario. While the development of a comprehensive regional plan is the goal, CMAP has developed a process that ensures that the community can learn about the benefits of different scenarios.

CMAP will develop a preferred scenario that takes the best of the alternative scenarios and balances the options based on input from the working committees and technical evaluation. There will be modeling and a larger charette to identify systematic improvements for each part of the scenario.

CMAP's Regional Indicators Project will play a large part of the selection of a preferred scenario. CMAP is coordinating with the Chicago Community Trust to complete the indicators project drawing on the Community Trust's expertise in subject matters like health, arts, education, and culture – all subjects not traditionally covered by a land use or transportation planning agency. The regional indicators list is currently comprised of 180 indicators that will be used to evaluate the final product. Some examples of these indicators include percentage of population and jobs with access to transit, acres of non-urbanized land, number of vacant housing units, and presence of nonprofit arts and cultural organizations per 1,000 people.[30] This list of 180 preliminary indictors includes topics ranging from housing and equity to land use and water resources.

The CMAP Board approved this preliminary list of indicators in December of 2008, but the list will be refined. CMAP will use a smaller list of approximately 20 indicators to evaluate the scenarios and guide the selection of the preferred scenario.[31] CMAP, working with other

stakeholders will refine the indicators according to a variety of considerations, including policy relevance, validity, representativeness, and outcome orientation.[32]

When the final list of indicators is chosen, they will be publicly accessible via a web tool for decision-makers to create a "personalized dashboard" web interface.[33] The web interface will allow decision-makers to tailor a website to track the indicators most important to them and provide real-time updates on the data linked to that specific indicator. The interface will also feature additional tools to map, tabulate, and analyze for different geographic scales.

While the indicators will assist in the selection of a preferred scenario, CMAP will also engage the public through a series of workshops. CMAP is working with *MetroQuest* to tailor the scenario-planning tool to the GoTo2040 process.[34] The commercially available software will allow participants to examine the impacts of strategies associated with each scenario in order to determine the most appealing scenario.[35]

Steps 5 and 6: Select Capital Projects and Communicate a Plan:

The selection of a preferred scenario will be followed by recommendations for capital projects based on the preferred scenario (Step 5) and completion of a final document and communication of a regional comprehensive plan (Step 6). Projects will be selected based on their compatibility with the regional vision. The regional indicators will also be used to guide the selection of the major projects. Projects may include both transportation projects (e.g. rail extensions), or non-transportation projects (e.g. public facilities).[36] The Final Plan will be completed and adopted no later than fall 2010. CMAP is taking a unique approach to the final report by dividing the report into categories that will not separate land use and transportation strategies as mutually exclusive strategies.[37] All strategies listed in the report will be cross-coordinated and linked, which will help to illustrate the overlap to stakeholders and the community.

Notable Practices

> "You cannot plan transportation without planning land use - it's like one hand clapping. It doesn't work."
>
> *- Frank Beal, CMAP Board Member*

Creating a completely new integrated agency and breaking down the barriers between the previous ones.

While many regional planning agencies also staff the MPO, others are separate entities, making it more difficult to integrate land use and transportation planning. Chicago was directed to re-integrate these functions into a single agency through controversial state legislation. As with any undertaking of this magnitude, there were/are problems associated with the agency integration. However, this organizational structure facilitates truly integrated land use and transportation decision making over the long term. CMAP has taken significant steps to integrate the two agencies, which were consolidated to form CMAP. First, they streamlined staff titles with a compact list of classifications, which clearly designates roles and paths for advancement. Using matrix management, project teams were assembled based on technical skills, not position titles.[38] CMAP also holds informal brown bag lunches to make sure all staff knows what is going on across the organization.[39] Furthermore, the two higher-level committees (planning and

programming) are comprised of representatives from all the working committees. All the relevant viewpoints for integration work together towards all the projects. CMAP has also integrated all technology systems as well as benefits/human resources systems as part of the integration.

Making the case for a regional vision and getting the best input possible.

CMAP's public involvement was very interactive and included many components. The agency is confident that the vision they have created accurately reflects the preferences of the region.

Noteworthy techniques include:

- Travel Tracker Survey: In January 2007, CMAP launched the Travel Tracker Survey, a comprehensive study of daily activities and travel patterns in the greater Chicago region. Enlisting the participation of more than 15,000 household from the Chicago area, this survey gathers information including daily activities, the origins and destinations of travel, travel times, modes, etc. CMAP and regional decision makers will use the results of this survey to plan needed transportation improvements, helping to make wiser decisions and efficiently prioritizing development of the region's transportation system.[40]
- Visualization Tools: CMAP features "Paint the Town" and "regional" interactive tools that allow communities to visualize the effects of their development patterns. CMAP conducts certified training for staff to provide incentives for communities to follow the regional plan. [41] CMAP has also launched a community-mapping tool, Full Circle that allows residents and organizations to use handheld web technologies to map their neighborhoods.[42]
- Communications and Outreach: The GoTo40 campaign features a picture contest to offer an interactive way for the community's youth to participate. CMAP also has Regional Snapshot Communications (branding, website, news products, presentation and briefings, and regional snapshot – leading to more specific issue snapshots.[43] GoTo40 launched an interactive and comprehensive website, www.goto40.org, which allows for engaging public interaction. The website features a survey, an idea zone, a blog with articles written by CMAP staff and guest contributors, and Spanish language materials. Additionally, CMAP has emphasized the development of collateral materials to engage the public (e.g., use of vision that includes photos, quotes, etc.).

Leveraging Chicago's Intellectual Capital

CMAP made it a priority to capitalize on the wealth of knowledge within Chicago with a wide variety of peer exchanges. Leadership workshops were used to engage local leaders in implementing regional land use plans and creating new opportunities for future planning efforts. Issue-specific summits designed to help break down barriers and examine the region's issues as a whole, and involved national and regional experts to help the problem-solving process.[44] The summits addressed issues such as climate change, foreclosures, innovation and integration; economic and community development; sustainability and transportation, and watershed planning and activities.

In addition, CMAP established strategic partnerships to assist in the GoTo2040 process. With Centennial Partners, they are using the 100th anniversary of the original Chicago city plan to highlight the importance of the GoTo2040 vision and subsequent implementation. They are working on a regional indicators project with the Chicago Community Trust to evaluate strategies to implement the Regional Vision. The regional indicators will be used to track progress and evaluate effects of different strategies as part of the scenario evaluation process of the GoTo2040 process. Indicators chosen through stakeholder meetings will predict and measure economic, environmental, social, and cultural variables.

Assessing Developments of Regional Importance

CMAP created a process to review major developments (including but not restricted to transportation projects) that have significant regional effects. Developments qualify if they meet or exceed certain thresholds related to size, purpose, or intensity of use. While localities maintain final approval authority, CMAP's role is critical to identify broader potential benefits or drawbacks.[45]

Lessons Learned

Leverage partnerships to amass greater influence.

CMAP, like most regional councils and MPOs, is directed by a board comprised of local elected officials, along with state partners and related agencies. Both the development of CMAP as an agency, and its regional plan, GoTo2040, have been successful due to partnerships with local communities and state agencies. CMAP was formed out of a growing recognition throughout the community that transportation and land use planning simply go hand in hand. An informal group of non-profit organizations campaigned for the consolidation of the agencies and supported the newly formed agency's mission. CMAP has earned buy-in from business leaders in the community by inviting these local leaders to participate in the regional visioning and planning process for Chicago. Developing relationships with businesses invested in the projects at CMAP has been helpful to the agency in building a larger base of supporters. Finally, CMAP has effectively leveraged funding and support from partners to contribute to the visioning process. For example, the Chicago Community Trust is contributing funding and expertise to assist with the Regional Indicators Project. Likewise, CMAP is working with the Olympics Bid Committee and the 100th Anniversary Burnham Plan to incorporate these stakeholder's concerns into the regional vision, and simultaneously garner support for the vision. These examples show how CMAP has effectively leveraged partnerships to amass a greater influence in the Chicago area.

Define a clear step-by-step process and build on existing efforts.

However, CMAP determined that reinventing the wheel was unnecessary and that many of the strategies adopted by the previously existing transportation and land use organizations could be adopted into CMAP's vision for 2040. CMAP built on existing efforts by pulling sections from previous plans and merged strategies from the NIPC 2040 Framework Plan and the CATS 2030 Regional Transportation Plan as a starting point for the GoTo2040 plan.

Using these strategies as a starting point, CMAP developed a clear six-stage process to develop a vision and communicated it clearly to the public through its workshop outreach and its website outreach efforts. The use of interim work products for the process has kept CMAP on track. CMAP is taking a creative approach to the final product by committing to the idea that the final work product for the plan will not be divided into chapters; rather there will be headings that integrate and mix transportation and land use.

Integrating agencies is possible, and possibly desirable.

The CMAP process has shown that integrating agencies is not only possible, but may be desirable for those involved. CMAP plans to base their selection of major capital projects on a well-developed integrated plan that relied on linking and layering scenarios. Using this process, CMAP has gone beyond regional plans covering land use and transportation to include a series of health and human services issues and topics. CMAP and the GoTo2040 process provide examples of how the integration not only works, but also works well. By integrating staff in a single agency, the goal is to have inherently integrated solutions and deliberations.

For more information

Randy Blankenhorne, CMAP
Executive Director
(312) 386-8600 (phone)
rblakenhorn@cmap.illinois.gov

Envision Utah and the Mountain View Environmental Impact Statement (EIS)

Envision Utah was one of the first processes in the country to conceptualize a statewide future with so many stakeholders. Initiated by business and civic leaders, Envision Utah is well known as an excellent example of land use and growth visioning.[2] In addition to the statewide visioning process, Envision Utah provides on-site technical assistance for communities to implement the statewide vision.

At A Glance

Lead Agencies:

- Envision Utah: The Coalition for Utah's Future
- Utah Department of Transportation

Participating Agencies and Organizations:

- Envision Utah: Mountainland Association of Governments (MAG), the Utah Transit Authority (UTA), the Wasatch Front Regional Council (WFRC), the Federal Highway Administration (FHWA), the Utah Department of Transportation (UDOT), Salt Lake City, the University of Utah, and other Local Greater Wasatch Area businesses, religious leaders, academics, and political leaders.
- Mountain View EIS: FHWA, UTA, WFRC, MAG, FTA, USFWS, US ACE, and US EPA. The Growth Choices Participants including representatives from 2 counties, 14 cities, 4 nongovernmental organizations, a school district, two chambers of commerce, and 5 landowners.[46]

Timeline:

- Envision Utah: Ongoing since 1997
- Mountain View Corridor EIS: 2003- 2008; Construction Start Undetermined.

Resources and Funding:

- Envision Utah: Envision Utah received funding from multiple sources.[47] Split three ways among individuals and from businesses, foundations, and government. Half of the government's share came from the Greater Wasatch Area's local governments and half of it came from the state.
- Mountain View Corridor EIS: Construction: $3 billion total includes $130 million to start construction in summer 2009 in Utah county, and $230 million for corridor preservation and initial construction in Salt Lake County. [48]

Envision Utah is involved in a variety of local implementation projects. One project involves the Mountain View corridor southwest of Salt Lake City, shown on the map below. Envision Utah

[2] Historically, the Coalition for Utah's Future was the formal corporate name, and Envision Utah was a project of the Coalition. However, the Board recently changed the formal name to Envision Utah. The Coalition for Utah's Future no longer exists under that name.

staff along with the Utah Department of Transportation (UDOT) facilitated the decision-making component of the Mountain View EIS, (Growth Choices), to integrate this transportation project and local land use effectively and cohesively. UDOT felt it had a great opportunity with this project to integrate transportation and land use at the beginning of a project and avoid some of the traditional transportation EIS conflicts.

Notable practices include:

- *Connecting statewide visioning to local corridor implementation.*
- *Using upfront agreements to keep everyone committed and at the table.*
- *Including a variety of options as part of a balanced transportation solution, not as mitigation or appeasement.*

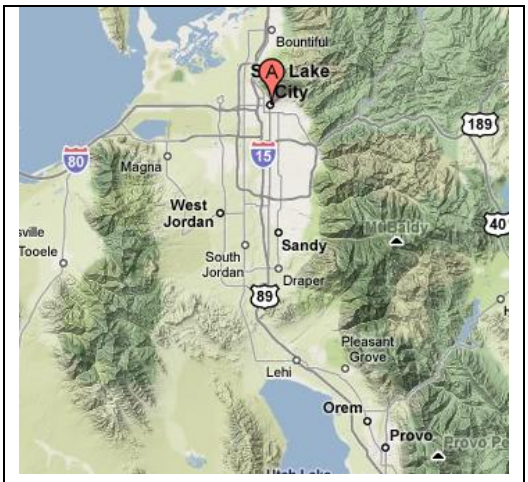
Study area

Background

Envision Utah, a nonprofit public/private partnership between Greater Wasatch community businesses, religious leaders, academics, and political leaders,[49] was created in 1997.[50] It was in response to unprecedented population growth and existing residents' worries about maintaining their future quality of life.[51] The Greater Wasatch area's population is expected to increase by a million residents between 1997 and 2020.[52] The organization's philosophy is that growth issues have natural boundaries rather than political boundaries, necessitating a region wide effort to deal with pressing issues; and that the public will make good choices if given realistic options.[53]

Envision Utah identified six primary goals in the Greater Wasatch Area to protect the community's environment and maintain its economic vitality and quality of life while accommodating anticipated growth. These goals include: 1) enhancing air quality; 2) increasing mobility and transportation choices; 3) preserving critical lands, including agricultural, sensitive, and strategic open lands; 4) conserving and maintaining the availability of water resources; 5) providing housing opportunities for a range of family and income types; and 6) maximizing the efficiency in public and infrastructure investments to promote other goals.[54] Based on these goals, Envision Utah created its Quality Growth Strategy, the initiation of Envision Utah's vision and the growth strategy. (Phase I) involved 135 public meetings, with more than 4500 participants, the distribution of 930,000 questionnaires across the region, with 23,5000 residents responding and more than 70,000 work hours dedicated to the public process and technical modeling.[55]

> "Visioning without implementation is hallucination. We are not here to create a plan – we are here to get things done."
>
> *-Alan Matheson, Envision Utah*



Natural Geography of Salt Lake City and surrounding areas

On a more localized basis, Envision Utah has provided local and state governments and private sector planners with the training and resources necessary to implement quality growth strategies throughout the Greater Wasatch Area, educated decision-makers, and shared the goals outlined in the Quality Growth Strategy. They are neutral non-profit facilitators to help communities make good growth choices.

One practical and successful application of this localized solution was the Mountain View Corridor EIS. Scoping for the corridor EIS began in May 2003, and the Record of Decision for the EIS was completed in November 2008. As part of the Mountain View Corridor EIS process, UDOT requested that Envision Utah facilitate a process, referred to as the Growth Choices Study, to help the cities in the study area understand the relationship between land use policy changes and transportation choices to create a vision of future development with unified land use and transportation policies.[56]

As shown in the exhibit on the local geography, this corridor is the most logical space for growth in the region since the natural geography of the mountain ranges and lakes constrain growth in other areas of the region. Local and regional transportation and land use plans identified the need for transportation improvements in this corridor as early as the 1960; and a corridor near 5600 West was part of the original Salt Lake Area Transportation Study in 1965; and the need has grown with current and expected high growth trends in Salt Lake and Utah counties. [57]

The objectives of the Mountain View Corridor project are:

- Primary: improve regional mobility by reducing roadway congestion and by supporting increased transit.
- Secondary: support local growth objectives, increase roadway safety, and support increased bicycle and pedestrian options.

The primary objectives were screening criteria (fatal flaws) whereas the secondary objectives were evaluation criteria. If the proposed alternative did not improve regional mobility by reducing road congestion and support increased transit, then it was an unacceptable solution. From the pool of acceptable solutions, the Growth Choices stakeholders evaluated alternatives in terms of their ability to support local growth objectives, increase roadway safety, and support increased bicycle and pedestrian options.

UDOT and Envision Utah had discussed joint collaboration previously and the Mountain View EIS provided an opportunity to do so. The goal was to help cities understand the relationship between land use policy changes and transportation choices to facilitate agreement on a vision of future development with unified land use and transportation policies.[58] Specifically the process aimed to:

- Combine land use and transportation strategies,
- Use the principles of scenario planning to explore the effects of different land use and transportation strategies,
- Implement a wide-ranging public awareness program including workshops to engage the public in developing scenarios and strategies,
- Develop measurable criteria to evaluate different land use and transportation scenarios, and
- Define options for consideration in the EIS.

As part of the Growth Choices process, the stakeholders signed a voluntary agreement outlining their collaborative principles and the preferences outlined in the agreed vision maps.[59] Each jurisdiction would also have to pass a resolution within nine months, committing their community in good faith to the vision. As part of this agreement, all parties agreed to support the implementation of the Mountain View vision to coordinate the activities, policies, and investments of state, regional, and local governments based on the following principles:

- Using teamwork to work toward a common vision, which will act as a guide for future land use and transportation planning and coordination among voluntarily participating jurisdictions;
- Implementing pedestrian-oriented, mixed-use centers and corridors through provisions in local plans, as necessary;
- Providing a variety of housing choices to increase geographical efficiency;
- Providing a balanced transportation system, as represented in the Vision Map (also the solution chosen in the EIS);
- Protecting the environment through open space provisions and conservation;
- Supporting the Mountain View Corridor Vision EIS Alternative; and
- Including transportation elements in future MAG and WFRC long-range

Parallel solution in Salt Lake County

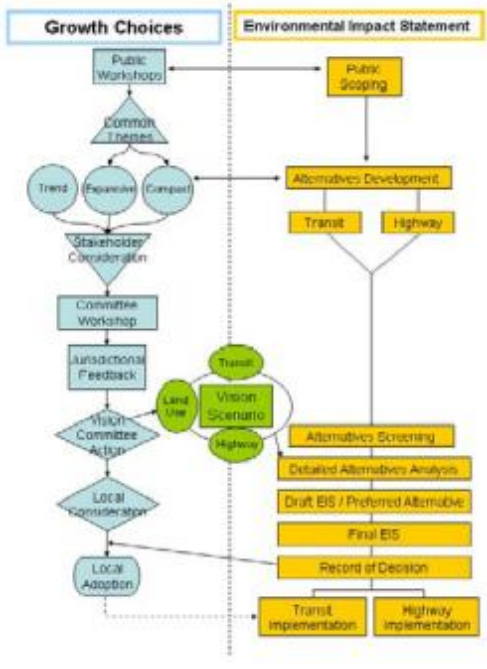
plans.[60]

The chosen solution has a preferred roadway alternative (for both Salt Lake and Utah counties) and a transit component with a phased implementation approach. In each county, there will be three phases to change a four-lane arterial into a larger transportation facility with more limited access. Implementation will proceed as funding allows and travel demand requires it. These phases also are linked to the transit component in Salt Lake County, starting with a Type 3 Bus Rapid Transit system, its expansion, and then the implementation of a rail transit system. It is important to note that the roadway alternative is a new facility, whereas the transit component would be on a local and parallel street. UDOT and UTA jointly sought to ensure the concurrent implementation of roadway and transit improvements to establish and incrementally expand each facility based on transportation needs and funding availability. Both UDOT and UTA believe that the balanced transportation solution is a combination of transit, carpool, and bike/pedestrian travel options within the corridor.

Process

For the statewide visioning process, Envision Utah included 130 key stakeholders, including state and local representatives, community business leaders, developers, conservationists, landowners, and church and citizen groups.[61] At the state level, Envision Utah has been the guiding force for the development of the Quality Growth Strategy, which aims to protect Utah's environment, economic strength, and quality of life "for generations to come."[62] With the information collected from the study, polls, and workshops, Envision Utah's members developed four alternative growth scenarios showing possible development patterns that could occur depending on which growth strategy the community chose to adopt.

Scenario A was dispersed development pattern with single-family homes on larger, suburban lots. Most development would focus on the convenience for auto users; and transportation investments would support auto use. Scenario B was not as dispersed as Scenario A, but the majority of development was still single-family homes on larger lots. Limited transportation investments would be made in transit. Scenario C changed the focus of new development, with more compact growth on undeveloped land, transit-oriented development, and improved provisions for pedestrians. There would be more infill development and redevelopment; and investments would extend public transit systems and other alternatives to private automobiles. Scenario D is the densest of all the scenarios with significant increases in infill and



Relationship between Growth Choices Process and the NEPA Process

redevelopment, and an extensive transit system. The community was given an opportunity to comment on these scenarios and share their input regarding what they felt would be best for the community. Public response overwhelmingly supported putting into place walkable and transit-oriented development and encouraging infill and redevelopment (Scenarios C and D), and elements of these scenarios became the foundation of the Quality Growth Strategy.

From the beginning of the Mountain View EIS process, Envision Utah and UDOT were interested in collaboration. In the past, UDOT would review the land use situation at the beginning of a project to determine future travel demand, and identify the appropriate transportation improvements to serve that land use. In this case, they looked at land use and transportation together, and discussed a wide variety of transportation and land use changes and their respective impacts. For example, if the communities wanted light rail as a transportation option, then they would have to have a certain level of density of land use.

The Mountain View Corridor EIS began in May 2003 with public scoping and agency coordination meetings. Through the Envision Utah facilitation process (called Growth Choices), a stakeholder committee of study area mayors, property owners, and non-governmental organizations was formed to discuss different scenarios. These scenarios ranged from sprawl-focused growth to density reduction and transit system's increase. There was a trend scenario following status quo projected into the future. The expansive scenario included lower density that present trends indicate and the impacts increased roadway widening and upgrading. The compact scenario projected the growth patterns based on compact nodes of development. The final goal of Growth Choices was to guide decisions related to multi-modal transportation improvements and land use changes in the study area.[63] As illustrated in the exhibit, the Growth Choices process directly affects and relates to certain NEPA steps. As of November 2008, the Federal Highway Administration approved the Record of Decision, permitting the initial stages of project development to occur. However, in light of budgetary constraints, the construction process has been delayed.

Notable Practices

Connecting statewide visioning to local corridor implementation

Linkages from Envision Utah to the Mountain View Corridor to the EIS process were clear. Each step involved implementation of the statewide vision - from the Envision Utah statewide visioning, to a Quality Growth Strategy, to the plan for the Mountain View corridor. The local technical assistance clearly supports the overarching state goals in partnership with local government. Growth Choices invited stakeholders from the communities within the corridor to construct their preferred scenario of future growth and transportation improvements. The scenarios became part of the transportation planning for the EIS project area. In addition, the information gained by Growth Choices helped the Greater Wasatch Area communities decide whether to make changes to their master plans that would better complement the anticipated transportation and growth scenarios.[65] Afterwards, the Wasatch Front Regional Council (WFRC) conducted a process similar to Growth Choices for its entire jurisdictional area, called *Wasatch Choices 2040*.

Using upfront agreements to keep everyone committed and at the table

At the conclusion of the Growth Choices Study, the participants all signed the Mountain View Vision Voluntary Agreement. The Agreement included a set of principles such as working toward a common vision, implementing pedestrian-oriented, mixed use town centers and corridors, providing a variety of housing choices, providing a balanced transportation system, protecting the environmental by planning for more open space, supporting the EIS alternatives and including elements of the vision in future WFRC and MAG long-range plans. The intent was to avoid the potential indirect effects from inconsistent local land-use plans. Actions to date are summarized below.

Growth Choices Affects Local Developers Plans

Daybreak is a master-planned community over 4,000 acres (16 km²) in size being built by land development company Kennecott Land in South Jordan, Utah. Home construction began in 2004 and the community will be built-out by 2020. When completed, it will contain more than 20,000 residential homes and 9.1 million square feet (850,000 m²) of commercial space. The Mid-Jordan Line of the light rail TRAX system will reach the community in 2011, but travel times to downtown Salt Lake City will still exceed 45 minutes. The Mountain View Corridor, when constructed, will also provide access to Daybreak, and Bangerter Highway lies along the eastern edge.[64]

- WFRC and MAG have both included the Mountain View vision in their long-range plans and have supported it through their agency actions.
- FHWA approved the Mountain View EIS, making corridor improvements eligible for federal transportation funds.
- UDOT is willing to meet with interested stakeholders and provide a forum to discuss the relationship between land use and transportation with localities.
- Some local governments, such as West Valley City, have changed their master plans to reflect the Vision.

- UDOT and FHWA revised the preferred alternative to match local land use plans, such as in Lehi. [66]

Planning the roadway and including a variety of options as part of a balanced transportation solution, not as mitigation or appeasement

Many of the enhancements within the EIS were not additions, but are integral to the Vision commitment to have a balanced transportation system. The most notable element is the transit component of the EIS, to be coordinated in phases with the roadway. The collaborative nature between UDOT and Utah Transit Authority's activities is evident in the preferred alternative. Phase 2 of the roadway enhancements cannot occur until Phase 1 of transit is in revenue operation (with some specific exceptions), similarly with Phase 2. Additional enhancements include:

- Park-and-Pool Lots, which are smaller than park-and-ride and intended exclusively for motorists to form carpools and vanpools (near the I-15 and 1200 West and Mountain View and SR-73 interchanges).
- Bicycle and pedestrian enhancements, including trails, bicycle lane on both street sides,
- Additional detention basins to be used as soccer fields.

Lessons Learned

As with other case studies, communities will welcome state involvement in regional land use and transportation planning if they are approached correctly.

In this case, the planning process was initiated by non-profit private entity concerned with the development of the region. A lot of community trust and goodwill was generated prior to UDOT becoming part of the process. As part of the Mountain View Corridor EIS process, UDOT requested that Envision Utah facilitate a process, referred to as the Growth Choices Study, to help the cities in the study area understand the relationship between land use policy changes and transportation choices to create a vision of future development with unified land use and transportation policies. The chosen solution has a preferred roadway alternative (for both Salt Lake and Utah counties) and a transit component with a phased implementation approach. This integrated, community based planning process facilitated agreement on a corridor plan that could move forward for implementation as funds allow. If the state DOT broadens its vision beyond its jurisdiction then a completely new range of solutions emerge. Collaboration with communities during the planning process makes project implementation easier and more cost effective.

All partners are welcome. [67]

Utah, through Envision Utah, was one of the first states to embrace a comprehensive growth and quality of life plan.[68] They have enjoyed great success in their endeavor to combat sprawl and have served as a model for numerous other coalitions.[69] The decision to involve such a large number of stakeholders from the very beginning was innovative and faced many logistical and operational barriers. Bringing this many people together for decision-making is a difficult and

messy process.[70] They operated on the belief that one cannot provide the public with an opportunity to be heard once planners have already made their decision. Instead, the public must be involved from the very beginning in a process where they are trusted to make wise decisions because planners have given them good choices. [71] The organization spent time educating the public about growth outcomes, alternative incentives,[72] and funding strategies. Fund-raising efforts were focused on not only raising money, but also providing balance from a number of different funding sources in order to demonstrate clearly that no one entity controlled the effort.[73]

Implementation takes time, but the results can be worth the effort.

It is difficult to implement such a forward-thinking project, especially when it requires approval of zoning changes from a City Council, which is time consuming. Although some changes have occurred, many of the jurisdictions have not completed changes to their comprehensive plans. Furthermore, the delayed funding for Phase 1 can inhibit action on the transportation elements. However, if the state DOT broadens its vision beyond its traditional jurisdiction of transportation projects – particularly in partnership with other regional, local, and civic entities that may control or invest in land use and development, then a) a whole new range of solutions emerges; and b) the collaboration with communities results in their support of both the plan and project implementation. In the case of Envision Utah, this support has included significant investment in public transit and rail improvements, and related transit-oriented and mixed-use development.

For more information

Alan Matheson
Executive Director
Envision Utah
(801) 303-1452
amatheson@envisionutah.org

Teri Newell
Mountain View Corridor EIS, Program Manager
Utah Department of Transportation
(801) 975-4807
tnewell@utah.gov

Gateway 1

Midcoast Maine residents were looking for a more collaborative approach to address regional concerns, and MaineDOT needed to find a proactive way to work with these communities. The solution, Gateway 1, is a new collaborative corridor planning entity that will integrate community involvement into proactive land use and transportation planning. Its goal is to preserve mobility, while enhancing safety, transportation choice, economic strength, and quality of life along the corridor.

Some of the notable practices of Gateway 1 include:

- *Fostering collaboration among the project team instead of using it to sell DOT ideas.*
- *Creating lasting institutional arrangements so that commitment to long-term solution remains.*
- *Balancing transportation needs and the community's concerns.*
- *Using strategies to equalize economic development benefits among communities in the corridor.*
- *Tailoring public outreach to the community and trying new techniques to get each community interested.*
- *Leveraging supportive state legislation to improve incentives for change.*

At A Glance

Lead Agency:

Maine Department of Transportation

Participating Agencies and Organizations:

Maine State Planning Office (SPO) ,the Federal Highway Administration (FHWA), and the following Midcoast communities: Bath, Belfast, Brunswick, Camden, Damariscotta, Edgecomb, Lincolnville, Newcastle, Nobleboro, Northport, , Rockland, Rockport, Searspot, Stockton Springs, Thomaston, Waldoboro, Warren, West Bath, Wiscasset, and Woolwich (see exhibit on next page for study are map).[74] Additional stakeholders include the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, Maine Department of Environmental Protection, and Maine Historic Preservation Commission.

Timeline:

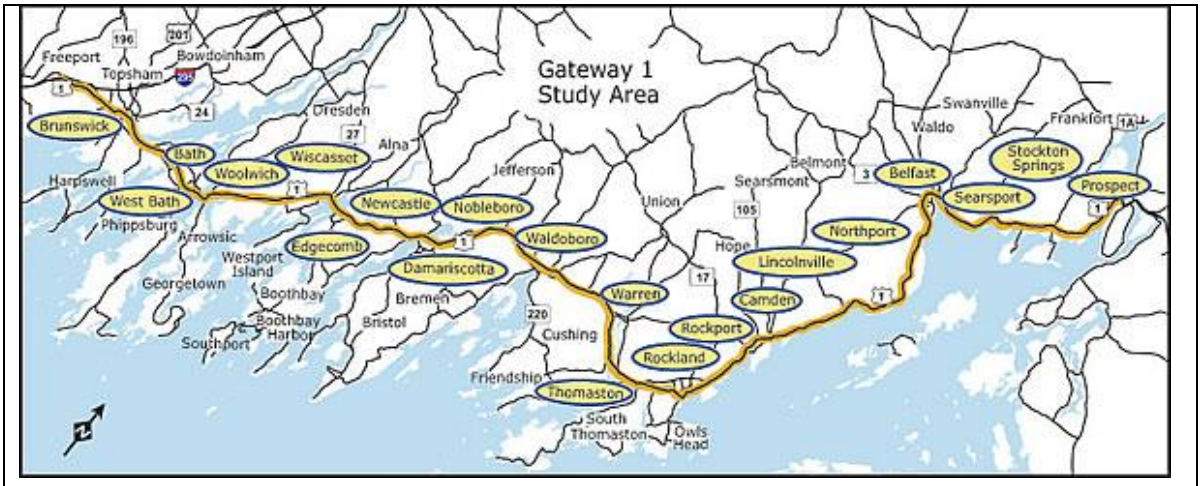
Phase 1 from 2004- 2005. Phase 2 from 2005-present (expected completion in 2009).

Resources and funding sections:

Phase 1: $300,000 through MaineDOT funds. Phase 2: $2.7 million. Phase 3: TBD

Background

The Gateway 1 project arose out of a long and contentious history between the MaineDOT and the 21 communities in the Midcoast Maine region (see list in *At A Glance* box). Although it may seem like Maine is immune from modern development pressures, the Midcoast region faces many of the same transportation issues as other American communities. In particular, rapid development in the corridor has led to increasing traffic congestion and truck traffic, especially during the summer tourism months. When MaineDOT responded to these issues with the conventional solution of widening U.S. Route 1, the towns reacted adversely; and several confrontations occurred, including public protests in Camden and Warren.



Gateway 1 Study Area[75]

Conflicting opinions about the corridor became evident during the state-sponsored Regional Transportation Advisory Committee processes, which solicited advice from communities on how Maine should invest its transportation dollars. The Midcoast region committee suggested that MaineDOT develop a comprehensive plan for the corridor instead of reacting to "spot" problems. In response, MaineDOT initiated the Gateway 1 process—a long-term strategic planning project for the Midcoast Route 1 region that sought to find a way to combine municipally based land use and state-based transportation planning.

Transportation-related signs along Route 1 in the Midcoast Maine region.[76]

Process

Phase 1 of the Gateway 1 initiative focused almost exclusively on trust building with the communities, and developing a collaborative framework for the corridor vision, plan, and

implementation. From 2004-2005, MaineDOT and the local communities explored the transportation and land use problems and the root of those problems in the corridor. A Steering Committee of particularly dedicated local stakeholders from the government and community groups was instrumental in this process and worked closely with MaineDOT.[77] During this time, the consultant Study Team (led by HTNB)[3] and MaineDOT also held over 50 community and larger regional meetings, surveyed the corridor through a visual assessment, and created a basic land use, transportation, environmental, and community inventory.[78] The goal for this extensive public outreach was to restore trust in the agency and among the towns in the corridor. MaineDOT's strategy steadfastly excluded any conversations on solutions from their own staff or stakeholders. Instead, they focused on problem identification and guidance from the communities, and identification of relevant data for decision-making. Phase 1 took approximately twelve months because they involved the public in every step of the process and each piece of the methodology. MaineDOT and the Study Team spent considerable time educating the stakeholders on all aspects of transportation project development, such as origin and destination studies, truck surveys, travel forecasting and analysis, etc. The goal was to overcome mistrust about the veracity of MaineDOT's information and its conclusions. The time invested in the trust building was well justified and appreciated by many of the stakeholders.[79]

Prior to launching this process, MaineDOT required that 15 of the 21 towns in the corridor commit to the process. During the interviews for this case study, the region's residents described themselves as wary of state direction and regional oversight. However, thanks to the patience and commitment of Maine DOT, at the end of Phase 1, an unprecedented 21 out of 21 communities had signed on for this innovative process.[81] The Memorandums of Understanding (MOUs) created a formal partnership agreement, documented the purpose of the strategic corridor plan, identified the roles and responsibilities of all the signatories, established a corridor wide decisionmaking and public involvement process, and agreed on how to identify and address local and regional issues.[82] Each community signed one individualized MOU with MaineDOT.

Gateway 1 Phase 2 decision-making structure.[80]

Phase 2, which began in 2005, focuses on continuous public engagement, detailed data gathering and analysis for the corridor plan, and identification of implementation strategies and

[3] HNTB Corp. was MaineDOT major consultant on the project, putting together a team that provided planning, traffic management, and land use expertise.

agreements.[83] It continues through 2009. Phase 2A began in the summer of 2005 and focused on creating alternative corridor scenarios through data collection and use of a travel demand model.[84] Public participation in Phase 2 involved formation of three groups, Town Response Panels (TRPs), Regional Subcommittees (RSs), and the Steering Committee. The TRPs for each community provided local feedback during the Plan development. Five RSs were formed representing 3-5 communities each; they met to hear updates on the process and look at issues regionally. The municipal governing bodies chose the Steering Committee representatives. The Steering Committee comprised a diverse group -- from town planners to professionals to trades people and area residents.[85] The Study Team and MaineDOT officials kept the department apprised of Gateway 1's status and progress.

The Gateway 1 project also invited additional stakeholders to participate in Steering Committee meetings as "Registered Organizations." This provided an opportunity for participants to obtain early copies of all planning materials, and present their perspectives directly to the Committees. As of February 2009, there are 37 Registered Organizations including, but not limited to, environmental and land use, housing, freight, highway-related businesses, downtown preservation, historic preservation, tourism, chambers of commerce, law enforcement, public transit interest, marine/harbor interests, and others. [86]

Phase 2B, which started in Fall 2008, centers on determining priority strategies to achieve the previously decided goals of the project. These strategies will be comprised of recommendations for transportation projects, as well as transportation and land use management techniques and policies such as design standards, permitting standards, and zoning ordinances.[87] The final plan, expected in 2009, will guide MaineDOT's future transportation decisions and investments and ask the municipalities to commit to changes in land use policy via Comprehensive Plan and ordinance amendments that will support the Gateway 1 goals stated earlier.

Although Gateway 1 in its basic form does not include an official "Phase 3" to fund and implement the recommendations, the Steering Committee is deliberating ways to institutionalize these decisions.[88] As of February 2009, the Gateway 1 stakeholders plan to include:

- Future institutional arrangements for implementation of the vision, such as technical assistance,
- Additional MOUs to outline the next set of commitments from all stakeholders,
- Funding strategies for implementation,
- Amendments local comprehensive plans and local zoning,
- Monitoring of progress at state and local levels, which could include development review in the future,
- Best practices to leverage this existing collaborative environment, and
- Continued public education and state-level advocacy about the land use and transportation connection. [89]

As part of the Gateway 1 process, the Steering Committee has identified certain state and local responsibilities/activities as part of the Phase 3 implementation to address the following goals:

- Increase housing and commercial density in key growth areas,
- Provide better traffic management along Rte. 1,
- Increase the long-term feasibility and use of transit,
- Preserve the overall rural feel of the Rte. 1 corridor, and
- Preserve selected distinctive viewsheds and habitat.[91]

Rural scene from Route 1 in Maine.[90]

For example, a local government could limit access points on the state highway in order to improve traffic flow on the state facility. The state could implement transportation supply activities that are consistent with this corridor vision, such as signal timing, striping, signage, and lane improvements. The future corridor organization would help encourage and promote the vision of the Gateway 1 initiative through an ongoing forum.

Notable Practices

Becoming part of a team, instead of controlling it and using it to sell DOT ideas.

The effort expended by MaineDOT was remarkable. Their willingness to change their approach for creating transportation solutions was evident in the collaborative decision-making structure and their commitment to changing the dynamic with the localities through a long trust building process. Gateway 1 will provide the towns and MaineDOT with a long-term strategy to coordinate growth and transportation decisions so that decisions work with, rather than conflict with, each other. MaineDOT has actually created a multi-disciplinary work environment using consensus building and negotiation skills to balance transportation, environment, and neighborhood development. This new structure is a dramatic change from a contentious past in which some community members accused MaineDOT of using public involvement committees as a rubberstamp for its chosen transportation solution.

Having the patience and foresight to accept "upfront" schedule time and project costs

The initial Phase 1 focused almost exclusively on trust building and creating the collaborative framework for the corridor vision, plan, and implementation. Maine DOT steadfastly resisted any conversations on solutions, not only from their own staff but also from stakeholders. Feeling that such talk would be polarizing, the DOT instead kept the conversation on identifying and agreeing on the problems and asking for guidance from the communities on what data they wanted the DOT to generate. Maine DOT resisted the usual temptation to press on against a

schedule. The DOT spent a lot of time up front getting the communities to understand everything: origin destination information, truck surveys, and other data, to overcome perceptions that the DOT was going to try to slant information. MaineDOT stopped when the public said stop; essentially, the public defined the scope and schedule, and process. It took two years to develop trust between the communities and MaineDOT – and between communities and their neighbors - and to trust the data. Phase 1 took so long because they involved the public in every step of the process and each piece of the methodology. However, everyone interviewed, from Maine DOT to stakeholders, all agreed that it was time and resources extremely well invested.

Creating lasting institutional arrangements so that commitment to the long-term solution continues.

The Gateway 1 stakeholders, including MaineDOT, have committed to long-term solutions – first through the Gateway 1 process, and then through a future institutional arrangement (being finalized as of March 2009). This institutional arrangement will articulate the process for decision-making and allow Midcoast region residents to address transportation, land use, and environmental issues collaboratively. In fact, this forum has already led to smaller localized guidelines, such as the Big Box Performance Standards used by Edgecomb, Newcastle, Damariscotta, Nobleboro, and Waldoboro. [92]

In Phase 1, the signed MOUs were comprehensive, committing the localities and MaineDOT to the Gateway 1 process. They included nine pages of standard language outlining the Gateway 1 process. One-page addenda for each community acknowledge its local needs and specific issues, relating them to the larger corridor/regional context. [93] MaineDOT compiled over 110 local items for incorporation in the MOUs.[94]

As of February 2009 in Phase 2B, the Gateway 1 Steering Committee is deciding on future alternative institutional arrangements to implement the Gateway 1 vision. They are still working on the details of its composition and roles, but it is envisioned to be a central collaborative entity, building on Gateway 1's decision-making and visioning success. This future organization would monitor the progress of localities and the state towards the agreed set of strategies/commitments. Some have suggested it could act as a regional metropolitan planning organization, but there are concerns about a new level of bureaucracy as well as its possible development review authority.

Balancing transportation needs and community's concerns.

As part of the Phase 2 vision, the Steering Committee chose the Transit-Oriented Corridor (TOC)[95] concept, a pattern of clustering new jobs and housing along the corridor.[96] Utilizing the TOC pattern will lead to revitalized downtowns, creation of jobs and shopping closer to housing, reduction in traffic congestion, increase in local jobs, and reduction of the negative impacts of growth on wildlife habitat.[97] More importantly, through the future MOUs in the alternative institutional arrangements, the localities will codify these agreements in their laws and comprehensive plans. As of February 2009, the Study Team has identified preliminary core areas for denser development for each community and the Steering Committee is working with their communities on accepting or adjusting these areas. [98]

Using strategies to equalize economic development benefits among communities.

One of the interesting strategies the Gateway 1 committee is exploring is the transfer of trip rights (TTR). Similar to the transfer of development rights, TTR assigns a certain number of trip rights to each parcel of land, with a total level set at the regional scale. There are receiving and sending areas in which identified high density/trip generating areas (e.g. town centers) can buy trip generation rights from more rural areas. Sharing the financial benefits of development in the urban areas with rural areas helps prevent unchecked development along the corridor.

Another strategy involves options to provide technical assistance to help communities build redundancy into their local roadway systems (possibly using MaineDOT resources) instead of spending those resources on the highways. Having a more complete local transportation/road network to serve local traffic will help to reduce congestion on the state highway. For many towns in the Midcoast region, the state highway is the only road choice. An important aspect is that a better local street network also helps with emergency access -- a common concern within the Steering Committee.

Tailoring public outreach to the community and trying new techniques to get communities involved.

The Gateway 1 initiative engaged in several interesting public outreach and education tools, targeted to the Midcoast communities, to help validate the technical analysis:

- MaineDOT conducted a Visual Assessment through an independent consultant, which cataloged the distinctive and noteworthy views that are integral to the quality of place of the Midcoast Route 1 Corridor, and provides management options to protect them.
- MaineDOT created three contextualized scenarios for the Steering Committee to evaluate; each scenario included travel demand modeling and land use form options. All parts of each scenario were possible and the vision and corridor plan needed to respond to forces that might be at play. [99] The scenarios are: 1) Full Wind: The economy ramps up - full steam ahead; 2) Perfect Storm: Events outside the Corridor's control mean the economy goes downhill - fast; and 3) Riding the Currents: The corridor develops at the same pace as existing trends. [100] Using the Riding the Currents scenario, the Steering Committee decided that TOC concept was the best solution for the Gateway 1 region.
- The Steering Committee is drafting “myth-busters” to help the public understand the land use and transportation connections, and to build more support for the Gateway 1 vision and implementation.
- Maine DOT conducted an “Attitudes Survey” to help build the best collaborative process and guide the vision and implementation of the Gateway 1 initiative. The Midcoast residents’ values guided the solutions – and ultimately -- their ability to be accepted and implemented. Over 500 randomly selected residents across the region were asked about specific values relating to property rights, governmental regulation, home rule, inter-local cooperation, economic development, scenic quality of the corridor, and choice of transportation.[101] This

information helped create a Gateway 1-specific solution and tailor messages to the community.

Leveraging supportive state legislation to improve the incentives for change.

The Sensible Transportation Policy Act (SPTA) amendments of 2003 support initiatives such as Gateway 1. The Legislature directed MaineDOT and the State Planning Office to draft a rule to link transportation planning processes of the SPTA to those for Comprehensive Planning and Land Use Regulation Act so that the transportation chapters of the SPTA and the Growth Management Act would be the same. The legislation codifies the premise that land use and transportation planning must work hand-in-hand to protect highway safety and mobility while enhancing economic opportunity, community livability, and environmental quality. Municipalities that develop plans using the new STPA guidelines are eligible for transportation planning assistance and other investment incentives, such as bonus prioritization points for MaineDOT's competitive programs and funded highway reconstruction and mobility project, and incremental reductions in local match requirements.[102] In this way, Gateway 1 towns are ahead of many other areas since they have already done so much work in this area.[103]

Lessons Learned

Communities do not oppose state involvement in land use planning in every case.

> "Fundamentally by separating transportation planning from land use, transportation agencies are messing with land use comprehensively – they are just ignoring the impact."
>
> *- Chris Osgood, Steering Committee member*

State elected officials, MPOs and DOTs are hesitant to discuss land use out of the fear that localities will react poorly if states interfere in this local domain. The Gateway 1 Initiative shows that public resistance to state involvement in land use planning is more a matter of how the DOT or state government approaches local communities. Localities can and will welcome state or regional leadership and facilitation. They just do not want "outsiders" attempting to take control and force a specific solution. The presumption that transportation agencies cannot influence land use is false; they do so directly by working collaboratively with local agencies; or indirectly through their investments in transportation facilities and programs. The Gateway 1 Initiative demonstrates that even in a strong home rule state, if a DOT or other state agency approaches their communities with respect and deference, then those communities are actually responsive to outside influence and support to make integrated transportation and land solutions work.

Better process gets a better commitment and credible outputs/outcomes.

For the most part, the same group of 50 dedicated people is still committed to the Gateway 1 process after five years. The participants consistently stated that this has some real possibilities for the communities. With the promise of high-level involvement, true joint decision-making and democracy is possible. Part of the reason this happened was that MaineDOT spent a significant amount of time building trust and repairing damage from earlier controversial projects. They

involved the public at every point in the process and required validation of all the technical outputs by the Committees. Through this process, the public came to trust the people involved and the data used for decision-making. In other words, they came to believe that the DOT was actually listening.

For more information

Kat Fuller, AICP
Project Manager, Gateway 1
Chief of Planning, MaineDOT Bureau of Transportation Systems Planning
207- 624-3300
kat.fuller@maine.gov

Carol Morris
Public Engagement Lead, Gateway 1
Morris Communications
207-329-6502
cmorris@morriscomm.net

NJ Future in Transportation Program and NJ Route 9, 29, 57, 31/202, and 322

At A Glance

Lead Agencies:

New Jersey Department of Transportation (NJDOT) and New Jersey Office of Smart Growth (OSG)

Participating Agencies and organizations:

New Jersey Department of Environmental Protection (DEP) and municipalities and counties involved in the five pilot projects selected for this case study: Route 9, 29, 57, 31/202 and 322.

Timeline:

New Jersey DOT has led the New Jersey Future in Transportation (NJFIT) initiative to link land use and transportation planning since 2004.

Resources and funding:

Consultant costs for pilot projects have varied from several hundred thousand dollars to $1million for Route 31/202. State funds are the primary funding source for consultant studies, with the exception of several federal funding sources for Route 17, Route 29, Route 31/202 and Route 38 corridors.[104]

The State of New Jersey has faced serious congestion problems over the last two decades. The New Jersey Department of Transportation (NJDOT) has relied on the standard approach of adding capacity and road widening, but has found this to be an unsustainable solution to congestion. Financial resources have declined and increasingly need to be put into maintaining and fixing the existing infrastructure. Due to community resistance and extended project development periods, it has taken decades to deliver some capacity expansion projects. NJDOT decided to develop an approach that would address congestion problems with a balanced and long-term focus rather than chasing short-term, but elusive fixes. The initiative, known as New Jersey FIT: Future in Transportation (NJFIT), focuses on integrating land use and transportation planning within the context of viable regional corridor projects rather than simply creating short-term solutions. The strategy has proven successful by encouraging municipalities to think beyond transportation improvements to develop sustainable land use policies that complement and support transportation strategies.[105]

Some notable practices employed by the NJFIT program include:

- *Helping communities to understand how codes, zoning and other ordinances can steer development into unsustainable patterns.*
- *Providing technical assistance and toolkits to help communities create a codified, share vision for the community.* [106]
- *Establishing a statewide focus on integrated land use and transportation helps to promote future project successes strategically.*
- *Finding the appropriate land use, access management and local network solutions to supplement and reinforce the traditional DOT approach of investing in the state highway system*

The sections below provide background, process information, notable practices, strategies, and lessons learned on this innovative initiative led by NJDOT.

Background

New Jersey Department of Transportation, like many other State DOTs, has been challenged with addressing congestion costs that have increased while dealing with funding sources that have remained flat. Due to the aging of the infrastructure, more and more resources have had to be reallocated to "fix it first" projects. Historically, if roads became congested, NJDOT added extra lanes to widen highways, but additional congestion problems emerged as vehicle usage simultaneously increased along with the capacity improvement. As expressed by former New Jersey DOT Commissioner Kris Kolluri, this sort of effort to "build our way out of congestion" is not a sustainable solution.[107] There is simply not enough funding to continue doing capacity increase projects, especially knowing that congestion would not be alleviated for long.[108]

Focusing on "System Wellness"

"NJFIT is designed to focus new investment on keeping our transportation system healthy rather than waiting for it to deteriorate and then doing the infrastructure equivalent of major surgery. This focus on "system wellness" means more projects, smaller projects that are synchronized with county and local transportation systems and land use plans and implemented faster through state, region and local partnerships. It is a "faster, better, cheaper" approach to new capital investment."

-NJFIT Website[109]

Adding to the problem of congestion in communities was a growing awareness of New Jersey development patterns' impact on the transportation system. As early as 1990, The NJ Office of Planning (now the Office of Smart Growth) hired the Center for Urban Policy Research at Rutgers University to evaluate the State's Development and Redevelopment Plan. Among other things, the Center found that "compared to a continuation of current development patterns, by the year 2010, implementation of the State Plan could save $700 million in road costs."[110] Within the past several years, NJDOT really integrated these findings from the State Development and Redevelopment Plan into its projects and plans. The NJFIT initiative is the result of NJDOT's migration towards context sensitive solutions and an effort to align the state's development patterns with its transportation plans.[111]

The initiative relies heavily on partnership development to encourage changes in the ways that roads are built and communities grow. The initiative is a new approach to balance travel demands by coordinating with municipalities to link land use and transportation plans. NJDOT identified the following goals for its NJFIT initiative:

- *Affordable* transportation solutions that increase community satisfaction.
- *Sustainable* transportation solutions that break the sprawl cycle with integrated transportation and land use
- *Deliverable* transportation solutions that satisfy the needs of all parties involved. [112]

The following sections describe the process that NJDOT now takes to integrate transportation and land use planning, as well as specific strategies that have worked well for a variety of communities.

Process

NJFIT is a comprehensive initiative focused on a corridor approach in order to better identify a region's transportation and land use needs and demands. NJDOT recognizes the value of focusing on strategic selection of projects that focus on "system wellness" and prioritizing a regional approach that identifies challenges for the overall transportation network rather than tackling specific segments one at a time.[114]

NJFIT Process Description:[113]

1. One on one interviews with local stakeholders to learn their concerns and help design the remainder of the PI processes
2. Convene a stakeholders meeting (local officials, developers and community)
3. Bring in technical consultants for public education
4. Start with a blank slate and brainstorm a vision with guidance from technical consultants and input from stakeholders
5. Conduct a build-out analysis of alternative growth scenario to analyze options
6. Reach consensus on a preferred scenario
7. Transfer process to local municipalities

NJDOT developed a toolkit of options, known as the NJFIT Toolbox, which provides strategies to be used in traditional capacity projects that address congestion. The toolbox includes strategies such as mixing land use, building for transit, and creating more connections. While none of these strategies is new, using them in combination is innovative.[115] Each strategy includes principles as well as local and national examples of each practice in action. For example, one of the NJFIT strategies is "Give Travelers Options." The principles of the strategy include save room for pedestrians and bicyclists, create more compact, mixed-use downtowns with connected street networks, connect transportation modes, particularly around transit, and consider congestion in centers a good thing.[116] These strategies support multi-modalism, ultimately reducing traffic congestion and creating a sense of place for the community. Some additional toolbox strategies include Build for transit, create more connections, provide better access, design roads in context, and calm traffic.

With these strategies in mind, NJDOT identified a series of pilot corridor study projects to show how the state and municipalities can work together using the NJFIT approach. The pilot projects are unique in that the state starts with a blank slate and then hires technical consultants to assist a community in creating a vision for the corridor and developing a variety of options together.[117] NJDOT focuses on the broader vision or goal of a community, rather than the standard approach of seeking feedback on a predetermined conceptual study.[118] Municipalities are not required to provide match funding, but NJDOT emphasizes that the availability of state and federal transportation funding to implement transportation improvements is linked to the municipality's willingness to embrace integrated land use and transportation principles in master planning and

zoning ordinances.[119] Those municipalities that do embrace these principles are eligible for technical support and additional funding from other state agencies, such as OSG or State Economic Development Authority.[120] NJDOT tries to involve the developers to help provide funding for transportation funding.[121]

On these pilot projects, and others that will follow the NJFIT protocol, NJDOT first interviews stakeholders one on one to learn the "lay of the land." This research is then used to design the remaining process. The knowledge gained provides the basis for a convening of a stakeholders meeting, including local officials, developers and community members interested in developing a vision for the town. They do a build out analysis and create alternative growth scenarios based on different land use and transportation development options. The scenarios usually analyzed include a business as usual growth trend as well as a version of proactive smart growth concentrated mixed-use approach. Congestion, growth, land use, and other outcomes of the scenarios are projected and presented to the communities. Growth potential is often based on market analysis, not simply zoning. The end goal is to work with communities to select the vision, which best represents where they want to be in 20, 30 or 50 years based on the realities of limited transportation investment, energy prices, and other mega trends.[123]

All pilot project corridor studies involve NJDOT and the NJ Office of Smart Growth to ensure that demands for travel and land use are accounted for in the vision. The presence of the Office of Smart Growth is deemed critical by NJDOT: it helps legitimatize the DOT's participation in the conversation on land use. The NJ Department of Environmental Protection is often involved, because in essence, it is in the land use business via its regulatory permitting powers. Furthermore, integrating transportation and land use on a community or corridor level provides opportunities for better environmental outcomes then on a permit-by-permit basis. Other agencies, such as the NJ Economic Authority and NJ Council of Arts, participate in the studies through a variety of interagency task forces. NJDOT monitors its pilot projects through municipal compacts or partnership agreements. An example of a partnership agreement for Route 9 is included in the Appendix.[124]

NJFIT Pilot Projects[122]

Route 1 – Edison Twp. (Raritan River to I-287 Int.)
Route 1 – 28 mile corridor from Trenton to New Brunswick
Route 9 – 30 mile corridor (GSP Int. 80 –Ocean/Burl. Co. line)
Route 9 Lakewood & Toms River – 7 mile corridor from CR 571 to Rt.88
Routes 9/ 33 Manalapan Twp.
Route 17 – 8-mile corridor (Paterson Plank Rd. to GSP Int.)
Route 29 Boulevard - (from Sullivan Way to Cass St.)
Route 30 connection to Cramer Hill in Camden City
Route 31 – 3 mile corridor (Flemington Circle to South Br. of Raritan River)
Route 33 – 5 mile corridor in Hamilton & Washington Twp. (Logan Ave. to Nottingham Way)
Route 38 – 19 mile corridor including I-295/ Rt. 38 Int. in Mt. Laurel and Moorestown (from Rt. 130 to Rt. 206)
Route 42/ College Dr. Int.
Route 57 – 21 mile corridor in Warren County (Phillipsburg to Hackettstown)
Route 70 – Toms River
Interstate 78 – 60 mile corridor Transit Assessment (from I-78/ Rt. 100 in Allentown, Pa. to County Rt. 531 in Warren Twp., NJ)
Route 130 – 10 mile corridor (Burlington Twp. to Cinnaminson
Route 322 – 15 mile corridor (from Commodore Barry Bridge to Rt.55)

Corridor Pilot Projects

To date, NJFIT has led 17 transportation and land use corridor projects; the sections below describe a representative sample of five of those projects. The corridors selected for study vary in length from three to 30 miles. They are geographically diverse located in five different New Jersey counties including Route 9 in Ocean County, Route 29 in Mercer County, Route 57 in Warren County, Routes 31/202 in Hunterdon County and Route 322 in Gloucester County. These five projects also represent a cross section of "stage of development," ranging from undeveloped/uncongested (Rt. 57) to emerging suburban (Rt. 322) to mature redevelopment (Rt. 29). Each of these projects is characterized by an integrated transportation and land use planning process, funded and facilitated by NJDOT. The planning was done in collaboration with the communities, which were allowed to direct consultant resources in creating a vision for the community.

Route 9 in Ocean County

The small town communities along this 30-mile stretch of Route 9 have and are continuing to experience rapid development. They have been overwhelmed by the growth and concerned about historic preservation, the sense of place, and environmental protection. As development increased, the first reaction was that a road-widening project was necessary to accommodate the increasing travel demand. However, the communities had concerns over how roadway widening would affect their community's character, while NJDOT recognized that it did not have the funds to widen the road. Both NJDOT and the communities wanted to look for a more sustainable solution focused on creating a sense of place.

Sample Route 9 Development Plan[125]

With NJDOT's assistance, the communities worked to adjust their local land use plans and codes and then collaborated on an overall integrated land use plan at the corridor level. They also identified six intersections along Route 9 for targeted highway investment. The six intersections were broken out of the corridor work in June 2005 and put into design years ahead of what might have happened if kept as part of a corridor wide, "all or none" EIS approach. One scheduled for construction in 2010 will focus on providing turning lanes and pedestrian improvements. Additionally, Ocean Township has received approval from the NJ State Planning Commission to build a town center, which would concentrate mixed-use development in a sustainable manner. The town center designation often provides the municipalities with priority consideration for obtaining the state permits and funding necessary to move forward with the town center development. An old strip mall is also up for redevelopment as the Berkley Town Center. Both Berkley and Ocean Townships intend to change their master plans to incorporate smart growth principles. Ocean Township has received

plan endorsement approval from NJ State Planning Commission and Berkley Township is in the process of pursuing plan endorsement.[126]

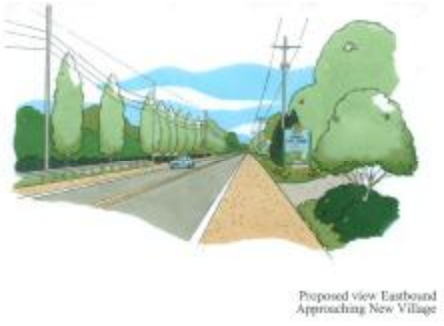
Route 29 in Mercer County

Route 29 is currently a four-lane freeway running along the Delaware River through Mercer County. In Trenton, it has experienced many crashes due to high speeds along the freeway, particularly along the section just north of the New Jersey State House. The freeway also separates Trenton from the Delaware River waterfront, and inhibits Trenton's plans for redeveloping that waterfront. The community lobbied for change for two decades, but without success. However, with the implementation of NJFIT, NJDOT agreed to conduct a study to address the high crash rates as well as relocating the freeway away from the waterfront. This would allow conversion of the facility to an urban boulevard, which is more compatible with the desired redevelopment. The community was interested in creating a boulevard that would connect with the waterfront for economic development and serve as a measure to reduce speeds to reduce crashes and enable development not compatible with high speeds. External consultants have been deeply involved in working with the community and officials for the visioning process to redevelop Route 9 as an urban boulevard.[127]

The NJFIT study evolved into two study sections. One section, referred to herein as the southern section, involves the relocation of Route 29 off the waterfront and conversion to a boulevard. The second section involves leaving Route 29 in place but re-engineering it to slow down traffic and reduce crashes. As of February 2009, NJDOT has developed preliminary engineering plans for both, and has completed the scoping phase, which NJDOT terms Feasibility Assessment. The City of Trenton and the Capital City Redevelopment Corporation are conducting a 6-month marketing study for the project vicinity. The future advancement of the Boulevard concept will be dependent upon land use decisions made by developers in conjunction with the city planners.[128]

Route 57 in Warren County

This rural 21-mile corridor includes farmland and small towns and provided NJDOT with an opportunity to deal with congestion before development generated it. Impending commercial and residential development, which is already underway, led to concerns on how to best deal with future travel demands. NJDOT initiated an NJFIT transportation and land use study within the corridor in an effort to forestall the "business as usual" development patterns, which would result in sprawl, congestion, loss of small town identity, and loss of the magnificent scenic vistas within the corridor. NJDOT collaborated with local communities to complete a corridor plan for the area through a visioning



Sample Route 57 Visioning[129]

and scenario planning exercise. Additionally, NJDOT provided the communities with a comprehensive toolkit to make decisions on land use. The toolkit included guidance on building design codes, transportation network design, form based codes and zoning overlays and transfer of development rights. As part of the plan, the communities along the corridor were awarded a scenic byway designation in February 2009.

Since then, some Route 57 corridor communities have additionally applied to be pilot communities in the Mobility and Community Form program (MCF).[130] NJDOT has funding available for one MCF pilot project in Warren County and is in the process of selecting a community for the funding award. NJDOT initiated the Mobility and Community Form program in order to help communities transition from traditional zoning in master plans to a more integrated form-based development code that links land use and transportation. The approach encourages linking the local grid to the design of community facilities, buildings and open space.[131] NJDOT developed a guidance resource for communities to use to incorporate these strategies into their master plans. The guidance can be accessed at http://www.state.nj.us/transportation/community/mobility/.

Route 31/202 in Hunterdon County

The Flemington/Raritan communities have been petitioning NJDOT to respond to heavy congestion on the existing Route 31 since the 1970s. NJDOT led a bypass study through the developing industrial area and a Draft Environmental Impact Statement (EIS) was initiated in 1988. Due to NJDOT's recognition that it could no longer fund a full freeway, an NJFIT transportation and land use study was initiated in 2004. Adding impetus to this decision was the reality that after 16 years, NJDOT was still having difficulty reconciling engineering issues with community and environmental concerns.

Sample Route 31 Visioning[132]

Since 2004, NJDOT has worked with the communities to examine alternatives to the bypass. They have identified a revamped approach to land use development in the corridor combined with the creation of a well-connected network of local streets within the proposed developments. The reduction of trips on the state highways resulting from compact mixed-use development along with the absorption of many of the trips on the local network allowed the bypass to be downsized from four lanes to two lanes and the design speed to be reduced from 65 mph to 35 mph. The resulting plan better fits in with the communities vision of themselves as rural. The less-costly parkway – named the South Branch Parkway -- would connect to the expanded local

network, provide pedestrian options, and link to new development. An access management plan to preserve the erosion of roadway capacity on major arterials is also underway.

Raritan Township and the Borough of Flemington received a grant from the Office of Smart Growth to modify the transportation elements of their Master Plans to reflect the new bypass framework plan.[133] Raritan Township has made the necessary changes in its Master Plan (both Land Use and Circulation) to reflect transportation improvements, including new street connections, as recommended through the NJFIT process. Flemington Borough was not required to change its Master Plan since most of the NJFIT pilot project's Route 31/202 corridor is actually in Raritan. Additionally, Flemington already has an existing roadway network for traffic dispersal. Flemington plans to use the funding to develop design standards to pursue its historic district status.[134]

Route 322 in Gloucester County

Route 322 is a major east-west connector and regional route in South Jersey. Within the study limits, it intersects with major state and interstate roadways, such as NJ Turnpike, I-295 and US 130, and important county routes. Numerous undeveloped parcels of land are zoned commercial or residential, and already approved or scheduled for new development. Based on current projections, development in the corridor will overwhelm Route 322's ability to continue to serve South Jersey's needs for a regional east-west route. Corridor projections include at least 7,500 new homes and approximately 4 million square feet of new commercial and office space, sure to create additional traffic in the corridor. With the current funding situation, NJDOT could not foresee making sufficient capacity improvements to accommodate the increased traffic that new development would add to the state highway system.

As a result, NJDOT collaborated with the NJ Office of Smart Growth, NJ Department of Environmental Protection, the Delaware Valley Regional Planning Commission, Gloucester County, and the corridor communities to study transportation and land use. An NJFIT study was initiated in late 2004. The aim of the study was to bring all stakeholders to the table to look for alternative sustainable approaches. The first volume of the study was completed in June 2006 and the second volume was completed in June 2007. In response to the study, a sustainable vision for the entire corridor, in the form of recommendations to townships, developers, the county, and state has been developed. Network connections and land use changes have been developed.

The three townships and local developers have also initiated individual dialogues with NJDOT to work on development site plans consistent with the principles for the entire corridor. In keeping with the Department's new philosophy, each of these individual projects may result in a public private partnership where the private developer contributes towards the study and implementation of recommendations.[135]

Notable Practices

Helping communities to understand how codes, zoning and other ordinances can steer development into unsustainable patterns

NJDOT recognizes the importance of educating the community, including the public and municipalities on the merits of integrating land use and transportation planning. To do so, NJDOT utilizes a variety of strategies, including:

- Publishing case studies: NJDOT publishes case studies of corridor studies on its website to provide examples to those interested in learning about how to link transportation and land use planning.[136]
- Communicating next steps: NJDOT takes steps to ensure that the communities are engaged in the planning process and informed on planning activities. For example, NJDOT sent corridor plan information home to local schoolchildren to their parents to inform them of activities on the Route 57 corridor plan.
- Providing an online toolkit: NDJOT provides an online toolkit that offers implementation tools to municipalities. The *NJFIT Toolbox* is a resource that provides guidance on how to use strategies that link transportation and land use. NJDOT recognizes that while these tools have been used by the transportation community for some time, the tools can be combined innovatively to address transportation and land use planning.[137] For example, the *Toolbox* provides strategies to create a sense of place, such as by preserving historic features in a neighborhood and using visual cues to guide drivers to be aware of community walkability.
- Developing a Mobility and Community Form Guidance Resource Center: NJDOT has initiated a new Mobility and Community Form (MCF) program to help communities plan future transportation and land use. MCF planning emphasizes the connections between the local system and the design of community facilities, buildings and open space. This program is supported by NJDOT and the Municipal Land Use Center at the College of NJ.[138]

Providing technical assistance and toolkits to help communities is vital in creating a codified, shared vision for the community

NJDOT empowers towns and municipalities to develop a vision for a corridor in order to best integrate land use and transportation demands. Working towards consensus building goes hand in hand with engaging communities. NJDOT coordinates community engagement to ensure that consensus building will be fruitful. Additionally, it has been noted in previous reports that codification is critical to moving forward with a consensus decision.[139] Some strategies NJDOT uses to engage the communities, build consensus and codify the process include:

- Conducting pre-interviews: The NJDOT conducted one on one interviews with stakeholders prior to the start of the visioning process. The purpose was to learn the concerns, issues, and suggestions of the stakeholders, to provide a foundation for designing the follow-up process. Speaking with stakeholders one on one also provided a different dynamic for input than a

public forum. Some spoke more freely, and for others, it eliminated the "spotlight" and grandstanding. A few communities conducted pre-interviews to determine what the public is most interested in seeing in the visioning process. For example, for the Route 322 Corridor, the town sent out a survey to community residents.[140] In the survey, the residents essentially put together a wish list of what they would most like to see in the community in terms of land uses.

- Bringing in external consultants: NJDOT funds consultants to meet with the state, municipalities, and the community to discuss different ways to address congestion in a non-confrontational manner. The consultants are essentially lended to communities to assist with the visioning process and facilitate the involvement of all stakeholders through mapping and visioning exercises. They also assist with community education and consensus building. NJDOT finds that securing and overseeing prequalified consultants to be much more successful than providing inexperienced communities with grants and asking them to fend for themselves in finding, selecting, and overseeing qualified consultants and providing those consultants with the right direction.[141]
- Communicating next steps: NJDOT posts information about progress and next steps on its website in order to share information on progress. Some communities, for example the town in which the Route 322 corridor was studied, sent out a community newsletter to ensure that the information was being shared in order to ensure an open forum and dialogue.

Establishing a statewide focus on integrated land use and transportation helps to promote future project successes strategically.

While community engagement and education are critical, NJDOT made a number of program-level decisions to better facilitate the integration of land use and transportation planning to address congestion. NJDOT has taken the following steps to ensure buy-in at the state level for the integration of land use and transportation planning:

- Focus on strategic selection of smaller projects, which the DOT can afford and ultimately build and focus on "system wellness."[142]
- Aim for a regional/corridor network approach rather than looking at individual segments to invest capital more effectively.[143]
- Engage the Office of Smart Growth in all transportation projects by involving staff in stakeholder meetings and decision-making.
- Provide financial assistance to the communities to assist in revising their master plans to account for land use and transportation planning. Sometimes the assistance was provided directly by NJDOT in the form of lending communities consultants. At other times, assistance or funding was provided by an MPO or through the Office of Smart Growth.
- Encourage partnership agreements that identify principles of cooperation for the municipalities and state.

- Share the message that communities that want to have a say in transportation must let transportation have a say in the community's land use. Maintaining this *quid pro quo* message up front is an important tool to establish a message that compromise is essential.[144]

Finding the appropriate land use, access management, and local network solutions to supplement and reinforce the traditional DOT approach of investing in the state highway system

NJDOT takes a variety of approaches on a project level to ensure integration of land use and planning – ranging from operations to design and systems. Some examples include:

- Designing and planning for pedestrians: A major emphasis was put on insuring that future development offers pedestrians a quality walking environment and better access to the network and new development. The pedestrian focus was carried on to the planning and design of the state highway in question. For instance, on Route 31, the state route was designed as a parkway instead of a freeway. On Route 29, the existing freeway will be replaced with a boulevard. In all cases, emphasis was placed on connecting the grid to the surrounding suburban area, which would reduce demand for the roadway and reduce congestion on the state highway.
- Transfer of Development Rights (TDR) – TDR is currently under consideration as a tool to manage development and growth in the quickly developing areas of Route 322.[145]
- Standardized statewide model planning and circulation guidance: In conjunction with the NJFIT initiative, NJDOT has launched a Mobility and Community Form (MCF) Guidance program. MCF planning looks to create better connections between the local system and the design of community facilities, buildings and open space. Benefits include economic vitality, pedestrian and bicycle access and land use patterns that support public transit, improve quality of life and foster a sustainable environment. In addition to the provision of the guidance online and in book form, NJDOT is providing technical assistance to multiple municipalities to revise their master plans, codes and zoning ordinances through community-based code. Much of this technical assistance is being provided through the Municipal Land Use Center at the College of New Jersey. For instance, Route 57 is under consideration for a mobility and form pilot project.[146]
- Development near transit and walkability: NJDOT launched a Transit Oriented Villages project in order to link land use and development back to transit. There are currently 19 transit-designated villages and the program is expanding. $2.8 million has been allocated for funding to expand the program in 2009. NJFIT corridor projects often consider ways to increase walkability in the communities. For instance, on Route 29, the community is trying to build a boulevard that would connect with the waterfront and help create a sense of place.[147]

Lessons Learned

The State can play a leading role in engaging communities to cooperate and contributing to the planning process.

Contrary to assumptions, NJ's communities – with a few exceptions – have welcomed support and direction from the state. As was the case in Maine, the success or failure in successfully collaborating with communities on land use largely depends on how the community perceives the state involvement. If the state comes across as asking communities to abdicate their control of local land use, the process breaks down completely. Communities do not respond well to loss of control. However, in a sense, many NJ communities already feel that they have lost control due to the constant pressure of impending development. Most are substantially under-resourced in planning expertise and staff and view the assistance from the state as a way of their ***regaining control*** over their own destiny. Furthermore, NJ communities have long recognized that what their neighbors have been doing regarding land use and development often does as much damage if not more to their own community. This is such a critical point that it bears repeating. If the state DOT (or any state agency) approaches the community in ways that do not threaten or intimidate them, communities will welcome the state's role in helping them regain control over development and in pulling together neighboring communities into the corridor planning process.[148]

Developing messaging to establish a "give and take" environment is critical.

A key step in the process is earning the communities' trust, particularly with respect to believing that the state DOT no longer has unlimited funds to build its way out of congestion. Public education and outreach to elevate public awareness of the challenges of maintaining the business as usual laissez-faire approach to transportation and land use planning is essential. Development of related messaging is also critical. For example, linking economic benefits to the integration of land use and transportation is a successful way to market and message, while highlighting costs is a successful way to point out the difficulties of pursuing "business as usual." Perhaps the most critical messaging involves visualization of what their community would look like in 20 or more years if integrated planning is not done. Once these messages are absorbed, it becomes easier to deliver the message that communities that want to have a say in transportation plans must let transportation agencies have a say in the community's land use plans. Establishing this *quid pro quo* message is an important tool to emphasize that compromise is essential.[149]

The State should engage consultants and "lend" them to communities to assist with developing a shared visions, plans, codes and zoning.

Most of New Jersey's communities are substantially under resourced when it comes to planning. Most do not have a full time planner and those that do find their planner overwhelmed with development applications. Municipal budgets usually have only token amounts of money allocated to planning. NJDOT and the Office of Smart Growth therefore recognized that the state of NJ would have to provide those resources. Generally, the resource was provided in the form of

a consultant but also an MPO or a state university was engaged. NJDOT finds that securing and overseeing prequalified consultants to be much more successful than providing inexperienced communities with grants and asking them to fend for themselves in finding, selecting, and overseeing qualified consultants and providing those consultants with the right direction

Plans will not be sustainable without formalization and implementation.

Establishing community codification, through revisions to municipal plans and ordinances or drafting agreements among jurisdictions is a necessary strategy to ensure the long-term success and viability of a project that links land use and transportation. Furthermore, while a state DOT can be a participant, and even an initiating participant in the process, the state cannot lead the local land use implementation process. Some form of oversight institution needs to be left behind to insure that the communities continue to work together. Ideally, there should be an agreement in place among the jurisdictions involved that identifies roles and responsibilities in implementing the process over the long-term.[150]

For more information

Paul Cohn
Project Manager, NJFIT
New Jersey Department of Transportation
609-530-6379
Paul.Cohn@dot.state.nj.us

UnJAM 2025 and Places29, Virginia

UnJAM 2025 is the Charlottesville region's long-range transportation plan integrated with a land use framework and Places29 is the corridor implementation of that framework and its principles. The synchronization of the processes (the decision-making and schedule) was the product of a strong, long-standing inter-agency collaboration and a conscious effort to integrate land use and transportation.

Some of the notable practices of this case study include:

- *Cooperating at multiple levels of government, including the MPO, relevant counties and cities, and state agencies.*
- *Creating an incremental and synchronized solution towards a common vision in Places29.*
- *Coordinating the land use and transportation processes seamlessly through one public involvement process/brand.*

At A Glance

Lead Agencies:

- UnJAM 2025: TJPDC/MPO
- Places29: Albemarle County, TJPDC, and Virginia DOT

Participating Agencies and Organizations:

- UnJAM 2025: Virginia DOT, Virginia Department of Rail and Transportation, City of Charlottesville and the Counties of Albemarle, Fluvanna, Greene, Louisa and Nelson, Jaunt (rural transit), Charlottesville Transit Service, University Transit Service.
- Places29: City of Charlottesville, area transit agencies, the Virginia Department of Rail and Public Transportation, and the University of Virginia.

Timeline:

- UnJAM 2025: 2002-2004
- Places29: 2005-2009[151]

Resources and Funding:

- UnJAM 2025: Approximately $250-300,000 through normal agency operating budgets.[152]
- Places29: $1.25M for the studies.[153]

Background

The Thomas Jefferson Planning District Commission (TJPDC) is the regional planning agency for the City of Charlottesville, VA, and five surrounding rural and suburban counties. Like many regional planning agencies, TJPDC staffs MPO/urban and rural transportation and RideShare efforts, affordable housing programs, environmental, disabilities, and other regional needs. Since it is governed by a Commission of largely local elected and appointed officials, TJPDC has historically assisted localities with preparation of their land use and transportation plans.

In 2004, the TJPDC adopted the United Jefferson Area Mobility Plan (UnJAM 2025), which is the long-range regional transportation plan for the five-county area.[154] UnJAM is unique in that it combined for the first time the urban/MPO and rural transportation plans in that region, creating a comprehensive and integrated regional plan.[155] UnJAM also incorporated concepts for linking land use and transportation, compact development, and interconnected street networks. Based on a previous FHWA-funded alternative scenarios study (see box below on the Jefferson Area Eastern Planning Initiative), UnJAM 2025 provided a more comprehensive planning approach to

The Jefferson Area Eastern Planning Initiative (EPI): As a Transportation and Community and System Preservation Pilot Program grant, the EPI had two primary objectives:

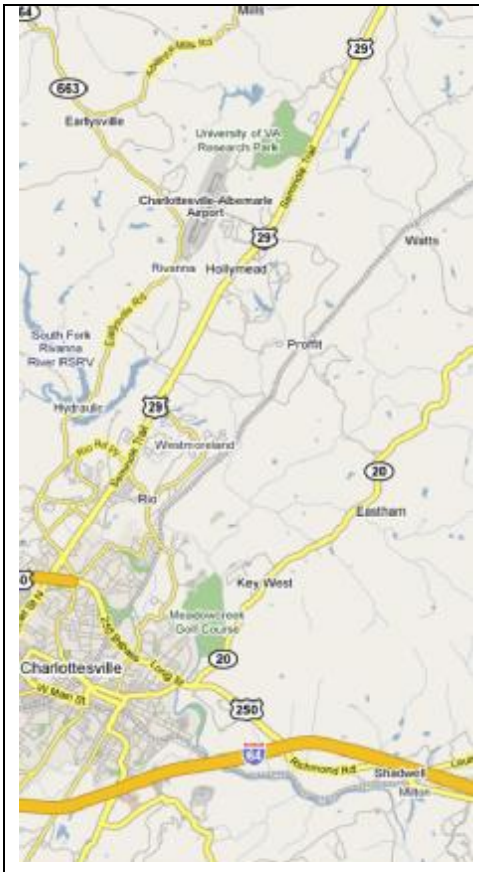
- To develop a set of modeling tools capable of concurrently evaluating transportation and land use options; and
- To develop a 50-year transportation and land use vision for the five-county region surrounding Charlottesville.[156]

Combining a land use model and inputting that information into the transportation demand model, the EPI determined that compact, interconnected development could save the region $500 million in transportation infrastructure costs, reduce VMT and fuel consumption, deliver more multimodal choices, and save significant amounts of fields, forest, and farmland. [157]

create a balanced, multi-modal transportation network through improving connections throughout the region; improving mobility within neighborhoods, towns, and counties; and making transportation choices, which help foster livable communities.

Key transportation principles include:

- Completing a well-connected network of roadways parallel to major highways with better connections within and between neighborhoods;
- Re-engineering intersection and corridor designs, including added lanes and capacity improvements to improve operation efficiency and safety;
- Fast, frequent, dependable transit service with seamless connections throughout the region;
- A terrain-modified grid of smaller streets serving more compact development forms in the suburban and rural developments;
- Well-executed design details for pedestrian-friendly streets, bike lanes and trails, transit stops, safer intersections, and pedestrian crossings. [159]



Study Area Map of Places29 Corridor[158]

These principles developed with the support and input from local communities, help to create the transportation changes necessary to build more compact land use at the local level. UnJAM was developed through an award-

winning public involvement process based on hands-on workshops, facilitation training for staff and citizen volunteers, and extensive communication and outreach.

One of UnJAM 2025's primary components is recognizing the significant role that US Route 29 plays as a local road, as well as a regional and state thoroughfare.[160] The MPO's US 29 North Corridor Transportation Study and Places29 (Albemarle County's Northern Development Area Plan) are joint projects aimed to more fully link local land use and regional/state transportation planning through an integrated process.[161] Together the two projects were collectively known as "Places29" to have a single 'brand name' and seamless public involvement process. The name "Places29: Creating and Connecting Communities in Northern Albemarle" was chosen to emphasize the importance of linking transportation and land use planning in shaping the future of Albemarle County's Northern Development Areas, while maintaining the critical need for through travel on one of the region's primary highways. Specific outputs of the transportation study and the land use master plan side of Places29 will be implemented by different agencies (transportation – Virginia DOT and land use- Albemarle County). Both studies and plans are geared towards their respective audiences and agencies, but the underlying framework and content is identical. The future land use plans in the transportation study are the same as those in the Places29 master plan; the transportation improvements in the master plan are based on those in the transportation study. The same core interagency working group managed both studies, including the same consultant team.

US 29 North Corridor Transportation Study Recommendations

The study determined that the main source of congestion on US 29 was local traffic, not larger regional and interstate movements. This meant that the traditional solution of a highway bypass would not eliminate the congestion issues for US 29, but only provide an outlet for some regional movements. The study then created a coordinated strategy of operational and engineering improvements targeted to critical areas of need. The areas of need are:

- Additional lanes in key areas,
- Grade-separated or other intersection improvements,
- Improvements to signal timing and synchronization,
- Removal of any unnecessary signals,
- More defined through and local service lanes,
- Access management and improved connections, and
- Completion of a parallel road network to serve surrounding neighborhoods and businesses.[162]

Places29 Recommendations

The main planning tool behind Places29's land use vision is Albemarle County's Neighborhood Model, a Congress for New Urbanism Charter Award-winning Comprehensive Plan. It guides the form of new development away from sprawling, isolated buildings toward a more compact, pedestrian-friendly design of interconnected neighborhoods and centers.[164, 165] The framework plan format was chosen for the Places29 Master Plan because it supports an overarching long-term vision of the desired community structure, while guiding ongoing development.[166] The framework plan format also provides sufficient flexibility to accommodate more detailed follow-up planning efforts, or Small Area Plans. These focused efforts will enable the county to work with property owners in specific locations to encourage redevelopment and to coordinate land uses with transportation and access improvements.

Interactive Street Capacity Exercises as part of UnJAM 2025.[163]

Process

Within UnJAM 2025 and Places29, the lead agency changed depending on the circumstance, but the decision-making structure did not amongst the core agency stakeholders. In UnJAM, the TJPDC was the lead agency conceptually creating the planning framework for transportation and land use at the regional Charlottesville level. Since the local jurisdictions understand they 'own' their regional agency, control and help fund it, the TJPDC has over time become the 'meeting place of choice' to understand and solve regional issues. Acting often like a 'cost-effective, friendly in-house consultant' to augment localities' staff, TJPDC has both initiated planning efforts and provided requested services, such as county comprehensive plans and small-town planning. State agencies like VDOT have discovered that meeting with localities at the regional level also saves their staff time and effort, and have helped fund several related planning efforts. Thus both Virginia DOT and the local communities (including Albemarle) were integrally involved in the creation of UnJAM (largely because TJPDC staff correctly understood their role as working for and reporting to both the localities and Virginia DOT, who co-fund their work). On the more local application of the UnJAM framework to Places29, Albemarle County became the lead agency for the county land use plan, while Virginia DOT (as

primary funder) and TJPDC (as lead consultant) took the lead on the 29 North Corridor study (which served as the transportation component of Albemarle County's Places29 Master Plan, and which the County co-funded).

Although both UnJAM and Places29 had extensive public involvement components, the TJPDC created the initial strategy, which was used again for Places29. The UnJAM 2025 public involvement process relies on several components, explained in detail below:

- A well-designed process to get people to the table and participating (Round 1);
- Exciting visual plans with innovative designs and local examples to get the best possible solution (Round 2);
- An action plan to get buy-in and determine priorities (Round 3); and
- Funding/implementation of model projects.[167]

UnJAM Round 1 was an extensive public involvement campaign, focusing on interactive, hands-on workshops for transportation and land use integration on a regional scale. Like the Maine and New Jersey examples, an extensive effort was made to educate the public and decision makers early in the project, and to get issues defined and goals set up-front. Some of the outreach methods included: letters, email, newspaper ads, public service announcements, flyers, partner newsletters, website, banners, and Virginia DOT trailers. Promotions included free transit passes, bilingual promotions, and KidJam to get families involved. Eight Round 1 workshops were conducted throughout the region held at convenient, transit-accessible locations in the evening. As part of the public involvement, the TJPDC conducted intensive workshops throughout the region for participants to map their ideas, and more targeted ones for local interested groups/venues, and small focus groups meetings for stakeholder groups with specific issues (e.g. seniors, low-income persons, business groups, disabilities groups, transportation activists, and elected officials.) Staff described the transportation planning process, outlined potential improvements using tailored PowerPoint presentations, and invited participants to mark their ideas on large area maps. Facilitator training was conducted for local and state staff and community members in each locality—from Chamber of Commerce and Planning Commission members to bike and rail activists. These local groups facilitated the workshops and helped publicize the events.[168]

Round 2 included follow-up working group exercises in which the TJPDC used blueprint sized workbooks to get people working around the tables together and developing consensus on preferred solutions and implementation priorities, based on the outcomes and vision from Round 1.

Round 3 was the presentation of the final plan to the public, which was adopted by all jurisdictions. It incorporates the UnJAM principles into the official Virginia DOT/MPO long-range transportation plan.

Both the principles in the final plan and the public involvement process are the basis for the Places29 corridor initiative. Presently, the County of Albemarle is currently in Round 3, planning to present the Places29 plan to its Commissioners in January 2009. The MPO adopted the underlying 29 North Corridor Study in late 2008.

Sample pictures as part of Round 2 presentations.[169]

Notable Practices

Cooperating at multiple levels of government can succeed, including the MPO, relevant counties and cities, and state agencies.

The feedback loop between the TJPDC, Virginia DOT, Albemarle County, Charlottesville, and other relevant agencies was continuous and each process influenced other process in the chain. One example is that the TJPCD went to each jurisdiction to get their buy-in on the UnJAM 2025 framework. This unanimous consensus resulted from localities' understanding that this was *their regional plan* and it reflected their transportation needs – it maintains their even stronger support through the 2035 update. As such, this framework is codified in both the transportation improvement program for the state agencies and comprehensive plans for the local counties, including Albemarle. On the Places29 level, the corridor continues through another county (Greene) and the City of Charlottesville. Both have been involved and supportive of the Places29 vision through UnJAM and their respective participation. Those areas and projects were 'forwarded' into the overall study, included in the modeling, and even shown on the County's Master Plan to enhance inter-jurisdictional coordination. This planning kept with the City's Commercial Corridor Study, another CNU Charter Award-winning plan.

In addition, Virginia DOT recently announced it would be conducting corridor plan for the entire statewide north-south length of US 29, recognizing that a corridor vision at that level would have been instrumental for this process. Furthermore, Fluvanna County has just finished a similar process, using the EPI scenario model to create a compact development strategy, design guidelines, and short and long-term transportation priorities, which are being incorporated into Fluvanna's Comprehensive Plan. Greene County has started a similar process, building on UnJAM's and Places29 success.

Creating an incremental synchronized solution towards a common vision in Places29.

With both Virginia DOT and the local land use agencies at the table, solutions can be found. Places29 and US 29 North Corridor Transportation Study proceeded concurrently and with multiple stakeholders at the table. They were synchronized in the decision points, purposes, and public process. The studies were 'joined at the hip' and Virginia DOT has already begun implementing some of the transportation improvements (safety enhancements and signal timing) as funds become available. Both UnJAM 2025 and the Places29 plans espouse a project-by-project implementation approach, recognizing that they are building networks through both public and private efforts. These networks are a critical element in developing solutions given the current climate of reduced transportation funding for large projects. One specific component is the access management alignment: the Places29 process aligned the access management recommendations for speed, access points, etc. to the street designation. Another was the use of in-house MPO/VDOT models to allow for continued collaboration and less cost; which helped coordinate access to the same data across the region. [170] Providing ideas and possible solutions to create these synergies is important to help localities be proactive in making integrated land use and transportation decisions and more compact communities.[171] The phasing of the solution also allows for the natural turnover of ownership so that present landowners are not burdened but that future changes are part of the next phase of ownership.

Coordinating the land use and transportation processes seamlessly through one public involvement process/brand.

In addition to the government outreach, the level of public involvement and outreach for each initiative was extensive. In Places29, the combination of solutions in the transportation study and the land use plan update was seamless so that the public did view them separately. Both UnJAM 2025 and Places29 used a wide range of outreach strategies and targeted many different citizen and business groups. Using the many government partners and pre-existing local groups is one way to cascade the public outreach process further. By building these relationships at the outset, it has helped to build consensus for the solutions long-term implementation potential.

Exhibit: Round 2 Workshop from UnJAM process.[172]

Lessons Learned

As in Maine and New Jersey, the State can play a leading role in engaging communities to cooperate and contribute to the planning process, when operating at the regional level.

Projects that link transportation and land use seem to work best when each partner understands their role, and that of the others. UnJAM was funded and managed though the regular state & local program, with the majority of funds coming from the federal statutory programs and state and local match. The MPO and Rural Transportation Technical Committees – largely composed of locality planning directors, state and local transportation staff, and transit operators – are a natural place for staff-level linkage of planning issues. With the MPO and rural policy boards composed of local elected officials and county planning board members, meeting in the same rooms and supported by the same TJPDC staff, the partners are better able to coordinate the state's role in transportation planning and programming, along with localities' role in land use decisions. The Places29 planning process was a natural outgrowth of this ongoing partnership, with both state and local decision-makers initiating, co-funding, and taking ownership of the process.

The public involvement process can be complex and long, but can also lead to worthwhile results and broad buy-in that will facilitate implementation.

Several of the participants thought Places29 might have taken too long. One question was whether there was a way to segment the process. The length of time also meant it could be difficult to have ordinary citizens participate substantively throughout the entire project. Presently, the Places29 process is about 1 year behind schedule, due primarily to the complexity of the County's master plan. This makes it difficult to maintain momentum. Part of the reason that it was a longer process was the contentious history of the corridor. Taking time up front to build consensus may have been the only way to get to a solution. Despite these delays, it is also important to follow up these agreements with targeted investments. One advantage of the corridor planning approach is that several of the realistic shorter-term improvements have been added to the MPO's transportation program and included for early-action funding, without having to wait for completion of the County's land use master plan.

Even if the solution is not unanimous, the outreach still is important and can help to alleviate some of the controversies and disagreements.

Public engagement and interaction can help offset some of the possible conflicts. The transportation solutions for this corridor have been particularly contentious. A bypass around US 29 has been proposed for the past 20 years but has proven unrealistic to implement, though still supported by business organizations. Because of the long impasse, the state and local agencies chose to engage everyone who uses, lives, or works in this corridor. All of the public stakeholders were equally available to participate in UnJAM 2025 and Places29. Complex projects, such as this one, may have complex solutions, but it is important that they are the community's solutions.

For more information

Judy Wiegand
Albemarle Senior Planner
Community Development Department
(434) 296-5832 x3438
Charlottesville, VA 22902
jwiegand@albemarle.org
www.albemarle.org

Harrison Rue
Principal
ICF International (former TJPDC Executive Director)
(919) 293-1647
hrue@icfi.com

Metro Vision and Blueprint Denver

Denver's *Metro Vision Plan* is a regional plan for growth and development, which incorporates transportation, land use, and environmental concerns into a long-range regional plan to manage growth and encourage more efficient and effective transportation investment and land use. The product is not just a compilation of local plans, but a shared vision for the region with targeted growth areas agreed upon by local metro area municipalities.

Blueprint Denver is an example of a local plan that has grown out of the regional framework set by the Denver *Metro Vision Plan.* It highlights specific steps to support urban centers, environmental quality, and a balanced, multi-modal transportation system.

Some of the notable practices are:

At A Glance

Lead Agency:

- Metro Vision: The Denver Regional Council of Governments (DRCOG).
- Blueprint Denver: City and County of Denver

Participating Agencies and Organizations:

- Metro Vision: City and County of Denver, Local governments and other state and regional agencies such as Historic Denver, Denver Environmental Health, Denver Planning Board, Denver Water Board, and Neighborhood Resource Center.
- Blueprint Denver: The Denver Community Planning and Development, the Public Works Transportation Planning office, and the Land Use and Transportation Advisory Committee.

Timeline:

- Metro Vision: Since the late 1990's.
- Blueprint Denver: 2000-2002

Resources and funding sections

- *Using different initiatives and tools, such as Living (Complete) Streets approach, new street classification system, and appropriate upzoning, helps make corridor and regional visions a reality.*
- *Investing in the most accurate, up-to-date tools and technology lays the groundwork for the most pertinent decisions for the situation at hand.*
- *Formal agreements and continued education through vertical and horizontal collaboration help keep a decentralized area committed to a central vision.*

Background

The Denver metro area is a fast growing region of 2.8 million people. It is projected to increase by another 1.5 million residents by 2035, or over 55% growth in 30 years.[173] For half a century, transportation and land use planning occurred separately in Denver and in other cities in the region. Denver reacted to traffic congestion by widening streets and removing buildings for parking lots. Denver's urban fabric and life along key arterials frayed, as transportation planners focused on moving cars. For years, strip development set back behind parking was the norm for new development along key transportation corridors.

Many of the Denver region's incremental steps and key successes have revolved around the progression from these outdated planning techniques to the integration of transportation and land use and corridor-based approaches, as detailed in this case study.

Like most regional councils, the Denver Regional Council of Governments (DRCOG) is both an MPO for the urban area and a regional planning agency for the surrounding rural counties (which retain the actual land use decision-making authority). In order to address the region's growing population, congestion, vehicle miles traveled, and accelerating land consumption, DRCOG began the *Metro Vision* planning process in 1992.[174] *Metro Vision* is a plan for continued growth of the metro area in a more cost-effective, environmentally beneficial framework that would protect existing communities and promote new, transit-oriented urban centers. *Metro Vision 2020* and *2035* seek to integrate the region's transportation, development, and clean water plans within voluntary growth areas that metro-area municipalities agree to target.[175] DRCOG staff has used analysis of infrastructure costs to illustrate the tradeoffs among growth decisions and patterns for metro infrastructure, and to build support for more compact regional growth by directing density to over 70 urban centers designated by local governments. Goals beginning in previous visions and culminating in the new *Metro Vision 2035* include specific objectives such as limiting the extent of urban development in 2035 to 921 square miles; encouraging development in higher-density, mixed-use, transit- and pedestrian-oriented urban centers; and constructing and maintaining a regional transit system.[176]

To help implement *Metro Vision* and the City's Comprehensive Plan, the City and County of Denver developed *Blueprint Denver* with stakeholders in 2001 and 2002. The intent of this effort was to integrate land use and transportation planning at the local level, to make quality development easier and less expensive to build, and to provide a framework for small area plans and associated capital improvements.[177] The need for the Blueprint was based in part on the widespread belief that Denver's current zoning code was outdated and could not deliver the type of pedestrian-oriented, dense neighborhood places that residents desired. It was also based on the increasing recognition that congestion and other problems in Denver were caused by their reactive approach to development in Denver and as importantly in surrounding communities. *Blueprint Denver* includes specific steps to support urban centers, environmental quality, and a balanced multi-modal transportation system. It outlines areas of change and areas of stability, encouraging increases in density in areas of change, urban centers, and along transit corridors in order to foster transit-oriented development.[178] Areas of stability are places where little growth or change is expected or desired; instead, growth and infrastructure investment are channeled to

areas of change to support anticipated development.[179] Both upzoning and downzoning have occurred as a result.

Blueprint Denver supports achievement of *Metro Vision* objectives, including a vision of upzoning, urban centers, and transit-oriented development in appropriate places, on the 35 key corridors *Metro Vision 2035* targeted for improvements in transportation and land use integration. Visions of this target incorporate roads, bicycle facilities, sidewalks, rapid transit, bus routes, freight railroads, and airports with urban growth areas and protected parks and open space. A specific project instigated through the Blueprint is the Speer Boulevard Corridor, which exemplifies the *Metro Vision* concept of a major travel corridor to statewide connectors, intra-regional corridors, and regional accessibility. The creation of *Blueprint Denver* served as an impetus for Denver's *2008 Strategic Transportation Plan's* (STP). That plan focused on urban corridors where major investments for future transportation demand will be needed, but with an orientation toward "Living Streets," a more vibrant and complete street and adjacent public right-of-way for all users.[180] Speer Boulevard, one of the most heavily traveled corridors in the region, was the focus of numerous improvement plans with neighborhood transit oriented development zones.

Speer Boulevard carries a high volume of traffic between the SE quadrant of the city and downtown; about 60 percent of trips are passing through. Some parts of Speer Boulevard are very consistent with the City's vision of a "pedestrian-friendly Downtown with complementary connections to public and private open spaces."[181] Current planning efforts emphasize strengthening of the urban edge along Speer Boulevard, providing better connectivity to downtown, and pursuing development partnerships for under-utilized sites. In the future the Speer Corridor will likely reinforce several of *Metro Vision*'s targets of transit oriented development, corridor improvements, urban centers, upzoning, and stable community protection. There is a long-range concept plan to expand the Speer corridor with a connection to the transit station at Parker Road and I-225, though no future funding has been identified.[182]

While acknowledging areas for improvement on Speer Boulevard, such as landscaping, street furniture, and better bike/pedestrian infrastructure, Denver has little major transportation capacity investment currently planned for the corridor. It has already seen some key transportation and design improvements, including the bridge and viaduct gateway upgrade just to the northwest of the above map, intersection upgrades of three key corridors, and two divided roadways at Speer, Broadway, and 6th Avenue.[183] Denver is now concentrating on station area plans and other corridor plans. Three rapid light rail stations are located within a 12-

Cherry Creek Corridor: Speer/Leetsdale Travelshed

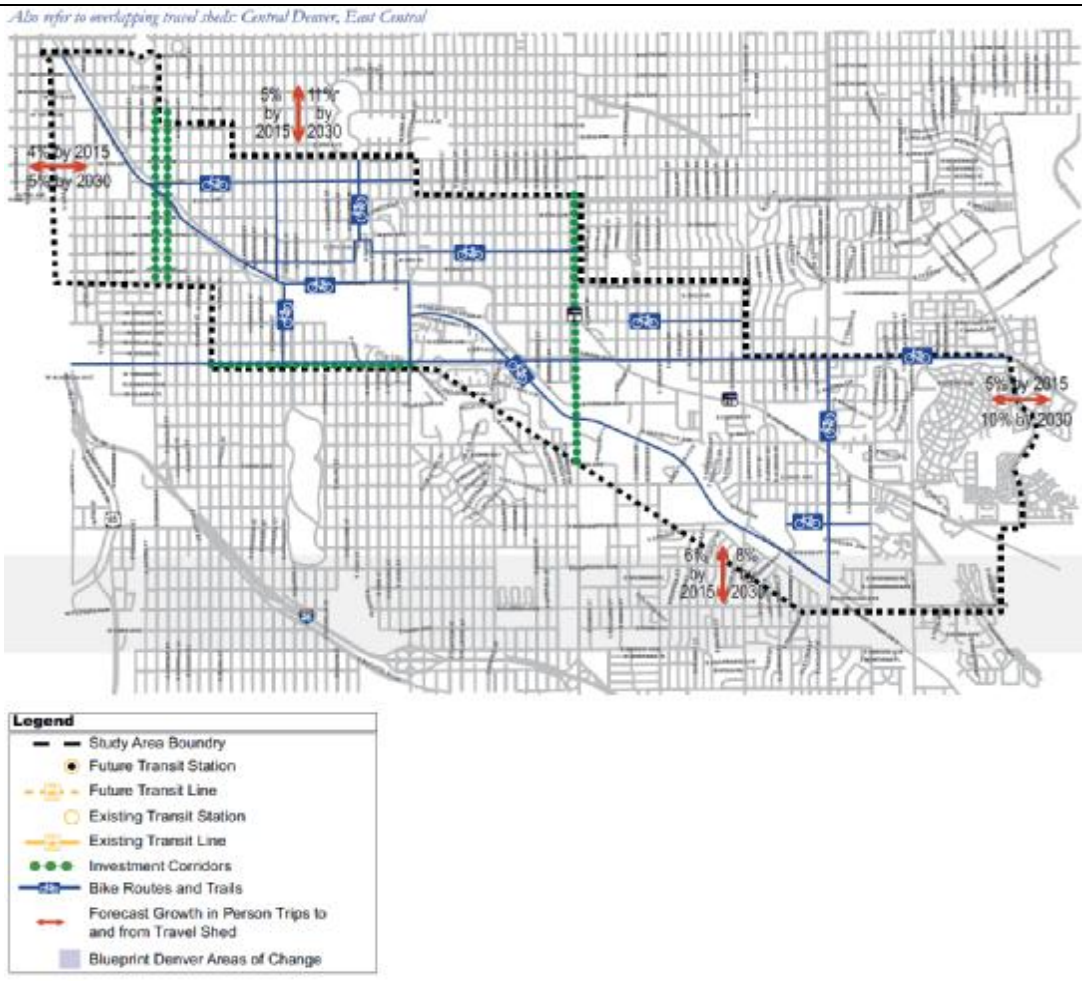
The Speer/Leetsdale corridor carries a high volume of traffic between the SE quadrant of the region and downtown. The corridor ranges from the upscale Cherry Creek district to commercial-strip development.

Denver consulted 15 neighborhoods in the course of the travelshed analysis, discussing improved traffic and transit service, in addition to street pedestrianization and multi-modal access.

Current planning efforts are emphasizing strengthening of the urban edge along Speer Blvd, providing better connectivity to downtown, and pursuing development

block radius of Colfax Street and Speer, and a station area plan at 10th and Osage will continue land use-transportation integration, upzoning around stations, and creation of strong neighborhood places, supporting adjacent streets and boulevards.

The Speer Boulevard corridor is one of a small number of diagonal streets in an otherwise highly developed urban grid. It serves as a connection between Denver's Central Business District and urban and suburban neighborhoods, such as Cherry Creek. Cherry Creek is an upscale neighborhood and a regional shopping district that generates nearly 30 percent of all the sales taxes collected in Denver.[184] Denver planners note that much of the corridor's focus is on traffic, but underutilized land (such as parking areas and mall exterior) in the Cherry Creek corridor provides an opportunity for development of transportation that enhances regional connectivity and person-trip corridor capacity. The Cherry Creek neighborhood is embracing its own plan to transform some streets from older, commercial corridors into pedestrian oriented, multi-modal streets to create a mixed-land use area amenable to increased transit options and easier access by all modes.



Speer Blvd. Study Area [185]

Process

Re-accelerating growth in population, congestion, VMT, and land consumption after the 1980's slump drove the Denver Regional Council of Government (DRCOG)'s first consensus building effort for Metro Vision in the mid-90s.[186] A committed group of elected officials and stakeholders spent more than two years developing and refining the plans prior to 1997 for Metro Vision 2020, and again for Metro Vision 2035. The 2035 plan update considered several alternative growth scenarios: Scenario A assumed no increase in urban area; Scenario B assumed a modest expansion of approximately 70 square miles; and Scenario C assumed an unconstrained 140 square mile expansion.[187] The compact scenario (A) resulted in less traffic congestion, and lower impacts on air quality and cost associated with constructing new infrastructure. The analysis influenced decision-makers to expand the UGB by less than originally anticipated, only 20 square miles. The committee assessing these scenarios consisted of a majority of elected officials (primarily mayors) who were members of the DRCOG Board of Directors, supplemented by several stakeholders from the academic, business, development, environmental, and transportation communities. Standing policy and technical transportation committees at DRCOG included representatives from freight, business, aviation, transit, and environmental communities.

Blueprint Denver is built on a strong base of broad public input at a neighborhood level, obtained from nineteen open houses and eight hands-on workshops in various areas of Denver.[188] Open houses created a forum to introduce and receive feedback on Plan concepts; workshops tested the suitability of the land-use and street classifications at a neighborhood level. Based on nominations from the City Council, Plan 2000 volunteers, City staff and consultants, Mayor Wellington Webb selected 46 individuals to serve on the Land Use and Transportation Advisory Committee (LUTAC) and construct the Plan. Examples of processes behind specific schemes undertaken to fulfill the Blueprint Denver vision include Denver's accomplishment of changes to the zoning code. Following an in-depth scrutiny of both unintended consequences and well-functioning aspects, they pooled knowledge and defined problems. The City met with planners and businesses and identified serious issues that required resolution. For development of a travel shed analysis (details of which are described below), Denver consulted with representatives of the 15 long-established neighborhoods. Neighborhood outreach for the corridor discussed macro elements such as improved through-traffic and transit service (potential for streetcars if opposition from Denver Country Club and surrounding neighborhoods could be surmounted), as well as micro issues aimed to pedestrianize the streetscape and support multi-modal access to adjacent neighborhoods and businesses.[189]

Notable Practices

Using different initiatives and tools, such as Living Streets approach, new street classification system, and appropriate upzoning, helps make corridor and regional visions a reality.

Specific, coordinated approaches can transform some of Denver's most heavily traveled commercial corridors into vibrant, attractive, and pedestrian-friendly streets, with compact development and an array of mobility options and activities. One such example is the Living

Streets Initiative, which brings together eight city departments/agencies. DRCOG's *Metro Vision* Transportation Policies endorse multimodal solutions such as the local, collaborative effort put forth by Living Streets.[190] Furthermore, the Initiative applies some of *Blueprint Denver*'s aims for specific streetscapes, balancing pedestrians and other travel modes with adjacent land use, and buildings that frame and enclose the street corridor. Streets that are designed to balance transportation modes and support walking and biking are a powerful indicator of public intent and community values to support more human-scale, compact, mixed-use development. The Living Streets Initiative kicked off in spring 2008 with a pilot study of selected areas along the Corridor.

The creation of a new street classification system further served to put visionary goals into action, helping to equalize consideration of land use and roadway function.[191] *Blueprint Denver* aims to improve the function of streets and utilizes a new street classification system to this end. A two-year effort led by Denver Community Planning and Development and the Public Works Transportation Planning Office, with additional help from the Land Use and Transportation Advisory Committee, developed this new street classification system.[192] The system helps ensure that land use and roadway functions are given equal consideration in the decision-making process, striking a better balance between functional classification, adjacent land use, and travel needs. The system emphasizes multi-modal streets that can accommodate more pedestrian and automobile traffic in the same amount of space, through improvements in transit and bicycle/pedestrian facilities.

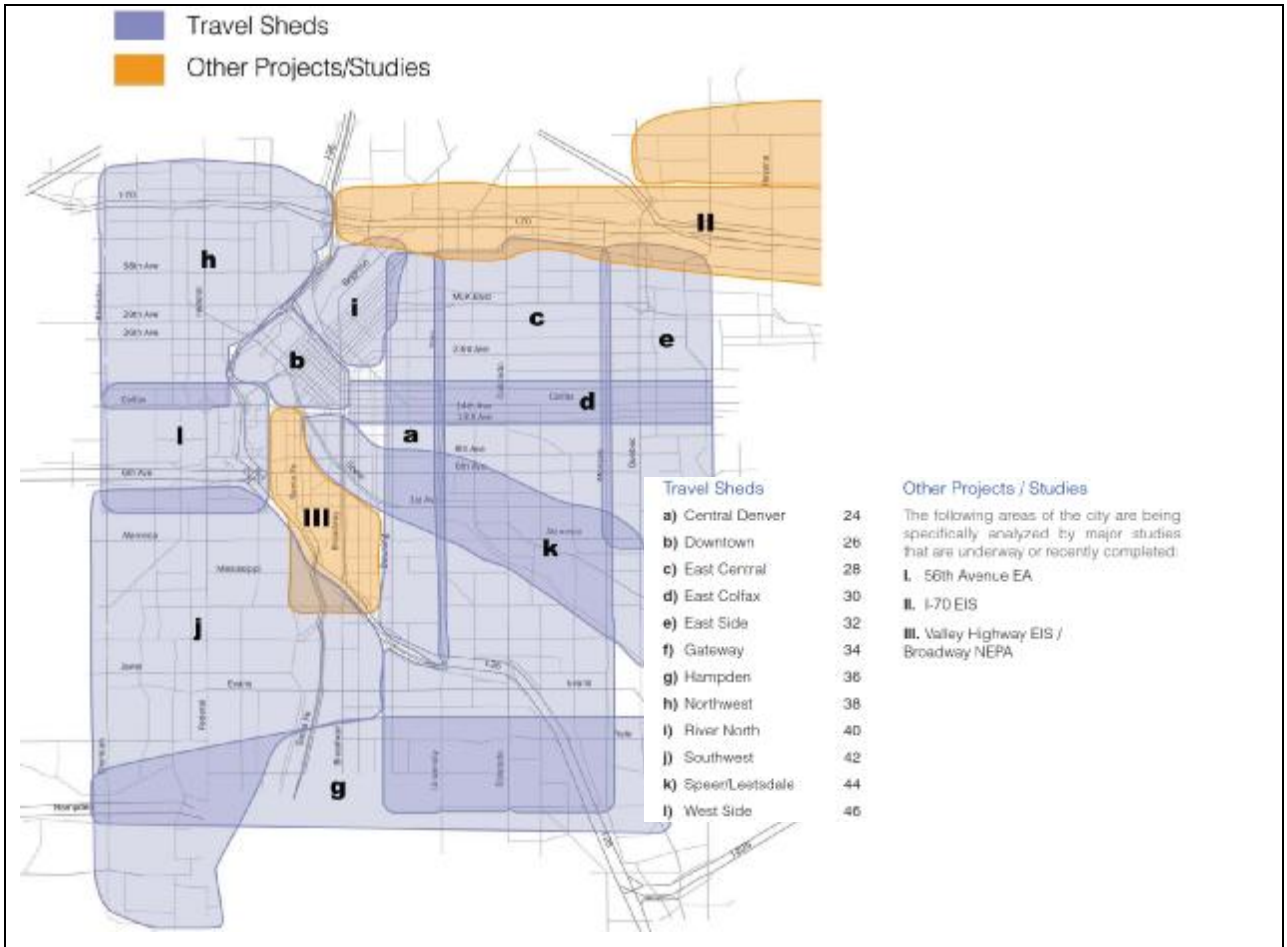
Two of DRCOG's mutually reinforcing ideas which enact *Metro Vision*'s goals are the concepts of urban centers and downzoning/upzoning. Local governments will plan for these urban centers to become high-density, mixed-use population and employment centers that absorb growth and support transit. These centers range from smaller employment and commercial locations, to larger mixed-use urban centers and large, multi-jurisdictional regional corridor districts. Downzoning and upzoning are strategies employed by the *2002 Blueprint Denver* plan in its identification of opportunities for higher-intensity development, along with high-capacity transportation systems using the new street classification scheme. Downzoning is more appropriate in some locations to achieve the goals of the plan.[193]

Investing in the most accurate, up-to-date tools and technology lays the groundwork for the most precise decisions for the situation at hand.

Denver's *Strategic Transportation Plan (STP)* includes several interesting technical developments, such as a roadway capacity model, the travelshed concept, and scenario planning tools. An innovative type of roadway capacity model was developed based on person trips, rather than a more conventional method that models auto trips. This shift allows the city to plan for bikes, pedestrians, transit, and street improvements and contemplate multi-modal solutions to transportation demand, rather then focus primarily on moving vehicles through the corridor.

A further novel element of Denver's STP lies in its 12 travelsheds, or study areas, within the city that have transportation characteristics and facilities that serve similar travel origin-destination patterns.[194] The idea of travelsheds is derived from the watershed theory, where a broad look is

taken at the collection of streets and mobility routes that feed into a larger, connected transportation system. The use of travel sheds can account for mobility issues that cause individual travel sheds to be interconnected, allowing for a broader community analysis. This technique allows for the analysis of street layout effectiveness, including transit routes, bike routes, pedestrian throughways, the grid and arterial system, their connections, and general movement efficiency through the system. Main Street zoning increases transition opportunities for applicable corridors.



Twelve travelsheds chosen in Denver's STP for future transit oriented development focus[195]

Moreover, innovative use of modeling/scenario planning supplemented the unique approaches presented in the STP. MetroQuest is a toolkit of rising importance as an envision sustainability tool to help DRCOG apply this 40-100 year visioning and scenario planning tool in the Denver region.[196] The tool helps communicate the complex interrelationships and tradeoffs between long-range transportation, land use and environmental planning decisions and will be used for ongoing education of the DRCOG board, which has high turnover. New leaders need to be oriented to past decisions, *Metro Vision*, and the relationship between land use and transportation. UrbanSim and TransCAD are additional modeling applications used by DRCOG

to allow decision makers to model land use and travel, thereby improving the ability to model the benefits of transit-oriented development.

Formal agreements and continued education through vertical and horizontal collaboration help keep a decentralized area committed to a central vision.

MetroQuest

A commercially available product allowing policymakers, business leaders, and the public explore questions by visualizing alternative future scenarios for various regions.

Sample Questions: What will the Denver region look like in 2040? How can the region accommodate millions of new people and jobs and keep (or increase) what residents most value?

The Mile High Compact is a landmark intergovernmental agreement documenting and fostering a broad base of support for growth management in the region. By signing on to the agreement, 40 jurisdictions representing more than 80 percent of the Denver region's population have voluntarily agreed to designate and abide by a voluntary Urban Growth Boundary or Area (UGB/A), to accept their share of future land development, and to identify common comprehensive plan elements and Metro Vision objectives in their local comprehensive or master plans.[197]

Collaboration across governmental bodies and a wide variety of stakeholders is important in identifying opportunities for progress. In July 2008, the City of Denver, the Surface Transportation Policy Project, and the Center for Neighborhood Technology held a workshop to help participants understand context sensitive solutions (CSS) and "design transportation projects for people not places." The workshop was anchored by a four-hour street audit exercise, where workshop participants visited Denver streets to apply workshop principles. The team suggested ideas for their study area such as a gateway, raised sidewalks, pedestrian refuges in the middle of the eight lane divided roadway, wider sidewalks, and better pedestrian amenities and bike/pedestrian trail entry signage.

Because of the wide applicability of its initiatives, DRCOG's effort focuses on providing information and encouraging collaboration — rather than on a single solution for all jurisdictions and regions. The agency holds monthly "Planner Idea Exchange" meetings, sponsors TOD Best Practices workshops in coordination with the Urban Land Institute, and manages a web-based portal providing access to the latest research, case studies, best practices, and articles on TOD.[198]

Lessons Learned

Funding shortage problems must be viewed as opportunities to create agreements and tools to hammer out plans for sustainable and transit-oriented development to be implemented once funds become available.

Funding is a large problem despite the area's investments in transit plans and the widespread benefits implementation would generate. The region's Transportation Improvement Plan scoring system to determine funding priority of projects still allocates the bulk of the points to reducing congestion, failing to produce a multi-modal environment. Even when funding is scarce, it is

beneficial to focus effort on specific achievable goals. Denver's pathbreaking Strategic Transportation Plan for Living Streets identifies activities that can be implemented when funding becomes available. Ensuring transparency and understanding the costs of growth is especially important in securing funding for planned changes. For instance, analysis of infrastructure costs was a key factor in local officials' agreement on a more compact growth pattern for the region. Local jurisdictions continue to approve development despite overburdened and under funded state transportation facilities and raise questions about the practical limitations of increasing density.

Planning and decision-making methods in the present must take into account future pressures stemming from climate change.

In the future, the plans will consider the combined pressures and issues from global warming, climate change, energy, and national security. Planners envision the transportation and land use decision-making context becoming much more critical. The state has already seen consequences such as millions of acres of dead trees due to pests resulting from rising temperatures, water shortages, and drought. While awareness of these issues varies a great deal and stakes are rapidly rising, Denver is endeavoring to address these issues through their advanced modeling and technology, and focus on "holistic and comprehensive solutions" such as the Living Streets Initiative. The creation of a new street classification system further served to put visionary goals into action, helping to equalize consideration of land use and roadway function.

For More Information

Steve Gordon
Development Program Manager
720-865-2922
Denver Department of Community Planning and Development

Bill Johnston
Denver Regional Council of Government
303-455-1000

Cynthia Patton, Planner
720-865-3163
Denver Department of Public Works, Division and Policy, Planning & Communications

Appendix A: Full Case Study Candidate List

Name of Project	City	State
Southeast Alaska Transportation Plan (SATP)	Regional	AK
Corridor Definition Studies	Statewide	AZ
Scenic 179		AZ
Widening SR 51		AZ
Alameda Corridor East (ACE)	Los Angeles	CA
California I-710 Major Corridor Study	Los Angeles	CA
Creating Livable Places - Growth Visioning Presentations	Los Angeles	CA
North County Combined Highway Study	Los Angeles	CA
Riverside County Integrated Project	Riverside County	CA
Blueprint	Sacramento County	CA
GIS tool used to engage community	San Diego	CA
Merced County Association of Governments Partnership for Integrated Planning (PIP) Project		CA
Big Sur Coast Highway Management Plan		CA
Denver Metro Vision Plan	Denver	CO
Denver Multi-Modal Street Type Designation System	Denver	CO
Northwest Sub Area Plan	Fort Collins	CO
SH 83-86 Corridor Optimization Plan	N/A	CO
Colorado Corridor Visions		CO
Colorado Joint Highway Transit Corridor Studies		CO
Route 305 Corridor Study	Bloomsfield and Windsor	CT
Rebuilding I-84 Corridor	Hartford	CT
Delray Beach	Delray Beach	FL
Fort Pierce	Fort Pierce	FL

Name of Project	City	State
Lake Worth	Lake Worth	FL
Future Corridors	N/A	FL
Atlanta Livable Centers Initiative	Atlanta	GA
Alternatives to Conventional Zoning		GA
US 95	Coeur d'Alene and Hayden	ID
IDOT Corridors Tomorrow		ID
US 20 Corridor Plan		ID
Chicago Regional Environmental and Transportation Efficiency Project	Chicago metro	IL
Tazewell County Traffic Congestion Mitigation Corridor Study	Pekin and Creve Coeur	IL
Tomorrow Corridor Planning Grants Case Study	Statewide	IL
Livable Roadways Visioning Program		Iowa
Bluegrass Corridor Management Planning		KY
Route 53 Corridor Transportation Plan	Boston region	MA
MassHighway Project Development and Design Guide		MA
Gateway Route 1		ME
Penobscot River Crossing		ME
MD-355/I-270 Corridor	Montgomery County	MD
Maine Corridor Coalition program		ME
Central Corridor Plan	St. Paul	MN
North Metro I-35 W Corridor Coalition		MN
U.S. 50 Corridor Study Preferred Improvement Strategy Results	Kansas City	MO
Joint Agency Planning for Metrolink Expansion	St. Louis	MO
Charlotte Blueline (LYNX)	Charlotte	NC
2030 Long Range Transportation Plan	Greensboro	NC

Name of Project	City	State
Traditional Neighborhood Development Street Design Guidelines		NC
Antelope Valley	Lincoln	NE
I-93 Improvements and Widening		NH
New Hampshire Transportation Business Plan		NH
Route 16 Corridor		NH
Stafford Regional Planning Commission, How to Link Land Use and Transportation		NH
Route 31	Flemington	NJ
Future in Transportation (FIT)	Hunterdon County	NJ
NJ Corridor Pilot Studies		NJ
NJ Transit Village Initiative		NJ
I-15 Landscape and Aesthetics Corridor Plan	Las Vegas	NV
Heppner Highway	Heppner	OR
Pacific Highway	Newberg	OR
McKenzie-Bend Highway	Sisters	OR
Oregon's Economic Revitalization Team		OR
PennDOT Smart Transportation program		PA
Transportation 2025, State Guide Plan Element		RI
Riverfront Plan	Chattanooga	TN
Loop 9 Southeast	Dallas	TX
Dallas-Fort Worth: Transportation and Land Use Joint Venture Planning		TX
Envision Utah	Salt Lake City	UT
Foothill Drive Corridor Study	Salt Lake City	UT
Mountain View Corridor Study		UT
CorPlan Model	Charlottesville	VA
Dulles Corridor Plan	Northern	VA

Name of Project	City	State
Vermont Corridor Management Handbook		VT
Vermont Downtown Program		VT
Vermont Flexible Design Standards		VT
Rural Town Centers and Corridors Program	Puget Sound MPO	WA
State Route 532 Route Development Plan	Stanwood	WA
Washington State DOT I-405 Corridor Plan		WA
SEWRPC Year 2035 Regional Land Use and Transportation System Plans for Southeaster WI		WI
DOT Guidance and Participation in Local Comprehensive Planning		WI
Mapping for a Millennium	Teton City	WY

Endnotes

[1] NJFIT. "Toolbox: Prescriptions for Wellness." http://www.state.nj.us/transportation/works/njfit/toolbox/ Accessed 11/1/2008.
[2] Based on Herman Volk Interview (11/20/08) with Harrison Rue and Ryan Thompson and Report on "NJDOT Highway Corridor Demonstration Projects: A Summary Report of Participant Interviews and Interviewer Observations," Municipal Land Use Center at the College of New Jersey, May 2007.
[3] NJDOT. "Mobility and Community Form." http://www.state.nj.us/transportation/community/mobility/ Accessed 12/20/08.
[4] NJDOT. "Mobility and Community Form." http://www.state.nj.us/transportation/community/mobility/ Accessed 12/20/08.
[5] NJFIT. "Frequently Asked Questions." http://www.nj.gov/transportation/works/njfit/links/faq.shtm Accessed 11/1/2008.
[6] NJFIT. "Frequently Asked Questions." http://www.nj.gov/transportation/works/njfit/links/faq.shtm Accessed 11/1/2008.
[7] Gary Toth Interview (11/14/2008) with Harrison Rue and Ryan Thompson
[8] CMAP. "2007 Annual Report." http://www.cmap.illinois.gov/FY07_annual_report.aspx?terms=FY07+Work+Plan Accessed 10/15/08.
[9] CMAP. "CMAP Budget." http://www.cmap.illinois.gov/budget.aspx?terms=Budget Access 10/15/08.
[10] CMAP. "Regional Vision Snapshot." http://www.cmap.illinois.gov/WorkArea/showcontent.aspx?id=1610 Accessed 11/24/08.
[11] CMAP "About Us" http://www.cmap.illinois.gov/about/overview.aspx?ekmensel=c580fa7b_8_10_124_1 Accessed 3/3/09
[12] The seven counties in the CMAP region include Cook, DuPage, Kane, Kendall, Lake, McHenry and Will Counties.
[13] CMAP. "Strategic Report on Visioning, Governance and Funding." http://www.cmap.illinois.gov/WorkArea/showcontent.aspx?id=1146 Accessed 11/24/2008.
[14]CMAP. "Strategic Report on Visioning, Governance and Funding." http://www.cmap.illinois.gov/WorkArea/showcontent.aspx?id=1146 Accessed 11/24/2008.
[15] CMAP. "Strategic Report on Visioning, Governance and Funding." http://www.cmap.illinois.gov/WorkArea/showcontent.aspx?id=1146 Accessed 11/24/2008.
[16] CMAP. "Strategic Report on Visioning, Governance and Funding." http://www.cmap.illinois.gov/WorkArea/showcontent.aspx?id=1146 Accessed 11/24/2008.
[17] CMAP. "About CMAP." http://www.cmap.illinois.gov/about/overview.aspx?ekmensel=c580fa7b_8_10_124_1 Accessed 11/24/2008
[18] CMAP. "Strategic Report on Visioning, Governance and Funding." http://www.cmap.illinois.gov/WorkArea/showcontent.aspx?id=1146 Accessed 11/24/2008.
[19] *http://www.cmap.illinois.gov/uploadedImages/about/board_members/committees_rev_0907.jpg*
[20] CMAP. "Strategic Report on Visioning, Governance and Funding." http://www.cmap.illinois.gov/WorkArea/showcontent.aspx?id=1146 Accessed 11/24/2008.
[21] CMAP. "Membership." http://www.cmap.illinois.gov/environment/membership.aspx Accessed 2/17/2009.
[22] Frank Beal Interview (2/18/09) with Kathleen Rooney and Ryan Thompson via phone.
[23] CMAP "GoTo2040" Homepage http://www.goto2040.org/ Accessed 3/3/09.
[24] CMAP. "GoTo2040 Regional Vision." http://www.goto2040.org/vision.aspx Accessed 10/15/2008.
[25] CMAP. "Regional Snapshot Series." http://www.cmap.illinois.gov/snapshot.aspx Accessed 10/15/2008.
[26] CMAP. "GoTo2040 Strategy Papers." http://www.goto2040.org/strategy_papers.aspx Accessed 10/15/2008.
[27] Interview with Bob Dean and Thomas Murtha (12/16/2008) with Kathleen Rooney and Ryan Thompson via phone.

[28] Interview with Bob Dean and Thomas Murtha (12/16/2008) with Kathleen Rooney and Ryan Thompson via phone.
[29] The Greater Wasatch Area of Utah is facing significant population growth. Envision Utah is a public-private partnership formed to guide the development of a new growth strategy for the region that will protect the environment, maintain economic vitality and quality of life.
[30] CMAP. "Regional Indicators List." http://www.goto2040.org/WorkArea/showcontent.aspx?id=11360 Accessed 2/17/09.
[31] Bob Dean and Thomas Murtha Interview (12/16/2008) with Kathleen Rooney and Ryan Thompson via phone.
[32] CMAP. "Regional Indicators Project." http://www.goto2040.org/indicators.aspx Accessed 11/24/2008.
[33] CMAP. "Regional Indicators Project." http://www.goto2040.org/indicators.aspx Accessed 11/24/2008.
[34] "Metroquest to Help Chicago Achieve a Brighter Future." http://www.metroquest.com/downloads/MetroQuestChicagoPR.pdf Accessed 2/19/08
[35] Bob Dean and Thomas Murtha Interview (12/16/2008) with Kathleen Rooney and Ryan Thompson via phone.
[36] CMAP." 2040 Planning Process Brochure." http://www.goto2040.org/uploadedFiles/plan/GOTO2040_trifold.pdf Accessed 11/24/2008.
[37] Bob Dean and Thomas Murtha Interview (12/16/2008) with Kathleen Rooney and Ryan Thompson via phone.
[38] Don Kopec and Randy Blakenhorne Interview (10/29/08) with Harrison Rue and Ryan Thompson via phone.
[39] Bob Dean and Thomas Murtha Interview (12/16/2008) with Kathleen Rooney and Ryan Thompson via phone.
[40] CMAP. "Travel Tracker Survey will Guide Future Highway and Transit Improvements in Metropolitan Chicago" http://www.cmap.illinois.gov/news/01182007.aspx?terms=travel+tracker Accessed 11/24/2008.
[41] CMAP. "Strategic Report on Visioning, Governance and Funding." http://www.cmap.illinois.gov/WorkArea/showcontent.aspx?id=1146 Accessed 11/24/2008.
[42] CMAP. "Full Circle Guide to Community Mapping." http://www.cmap.illinois.gov/uploadedfiles/FC_Best_Practices_8-14-08.pdf Accessed 2/19/2008.
[43] CMAP. "2007 Annual Report." http://www.cmap.illinois.gov/FY07_annual_report.aspx?terms=FY07+Work+Plan Accessed 10/15/2008.
[44] CMAP. "2007 Annual Report." http://www.cmap.illinois.gov/FY07_annual_report.aspx?terms=FY07+Work+Plan Accessed 10/15/2008.
[45] CMAP. "2007 Annual Report." http://www.cmap.illinois.gov/FY07_annual_report.aspx?terms=FY07+Work+Plan Accessed 10/15/2008.
[46] Local Government (West Jordan, American Fork, Bluffdale, Lehi, Pleasant Grove, Riveton, Salt Lake City, South Jordan, West Valley City, Herriman, Saratoga Springs, Eagle Mountain, Taylorsville, Lindon, Salt Lake County and Utah County; Private (Kennecott Land, Sorenson Development Company, ATK Aerospace, Thanksgiving Point, Milcon, Inc.); Chambers of Commerce (Southwest Valley, Lehi, and Salt Lake); Nongovernmental (Future Moves Coalition, Sierra Club-Southwest Region, Great Salt Lake Audubon, and Envision Utah); Regional, State, and Federal Government (UDOT, WFRC, MAG, UTA, and Utah National Guard); and other (The Church of Jesus Christ of Latter-day Saints, Jordan School District, and State Representative David Hogue).
[47] Transportation Research Board of the National Academies. *Smart Growth and Transportation: Issues and Lessons Learned. Report of a Conference.* Grow, Robert. "Whose Future is It, Anyway? The Essential Public Process." September 8-10, 2002.
[48] Mountain View EIS Website, "Frequently Asked Questions." http://www.udot.utah.gov/Mountain View/faq.php. Accessed 12/16/08
[49] Burbridge, Knowlton, and Matheson. Wasatch Choices 2040.
[50] Transportation Research Board of the National Academies. *Smart Growth and Transportation: Issues and Lessons Learned. Report of a Conference.* Grow, Robert. "Whose Future is It, Anyway? The Essential Public Process." September 8-10, 2002.
[51] Burbridge, Knowlton, and Matheson. Wasatch Choices 2040.
[52] Transportation Research Board of the National Academies. *Smart Growth and Transportation: Issues and Lessons Learned. Report of a Conference.* Grow, Robert. "Whose Future is It, Anyway? The Essential Public Process." September 8-10, 2002.

[53] Transportation Research Board of the National Academies. *Smart Growth and Transportation: Issues and Lessons Learned. Report of a Conference.* Grow, Robert. "Whose Future is It, Anyway? The Essential Public Process." September 8-10, 2002.
[54] Envision Utah Web Site http://www.envisionutah.org/introduction.phtml. Accessed 10/21/08.
[55] Envision Utah Website: Implementation http://www.envisionutah.org/process-intro.phtml. Accessed 2/20/09.
[56] Mountain View Corridor Record of Decision, FHWA, November 2008, www.udot.utah.gov/mountainview/downloads/MVC_ROD_final.pdf, Accessed 4/17/09
[57] Mountain View Final Environmental Impact Statement Purpose and Need. http://www.udot.utah.gov/Mountain View/draft_eis.php p.1-7. Accessed 12/16/08.
[58] Mountain View Record of Decision, http://www.udot.utah.gov/Mountain View/downloads/MVC_ROD_final.pdf p.5 Accessed 12/18/08.
[59] Growth Choices Supplement as part of the Mountain View EIS http://www.udot.utah.gov/Mountain View/final_eis.php Accessed 12/18/08.
[60] Mountain View Vision Voluntary Agreement http://www.udot.utah.gov/Mountain View/final_eis.php Accessed 12/16/08
[61] Envision Utah Website: http://www.envisionutah.org/envisionprocess.phtml. Accessed 11/7/08.
[62] "Public/Private Partnership and Technical Committee Formed." http://www.envisionutah.org/process-form.phtml. Accessed 11/7/08.
[63] Mountain View Record of Decision, http://www.udot.utah.gov/Mountain View/downloads/MVC_ROD_final.pdf p.5 Accessed 12/18/08.
[64] http://www.daybreakutah.com/
[65] National Governors Association Center for Best Practices. *Final Report: Policy Academy on Integrating Transportation and Land Use.* March 2004. Page 9.
[66] Mountain View Final Environmental Impact Statement Summary. http://www.udot.utah.gov/Mountain View/draft_eis.php p.S-38. Accessed 12/16/08.
[67] Transportation Research Board of the National Academies. *Smart Growth and Transportation: Issues and Lessons Learned. Report of a Conference.* Grow, Robert. "Whose Future is It, Anyway? The Essential Public Process." September 8-10, 2002.
[68] National Governors Association Center for Best Practices. *Final Report: Policy Academy on Integrating Transportation and Land Use.* March 2004. Page 8.
[69] *Making Regionalism Work.* Harvard Law Review. 118: 2291-2313. 2005.
[70] *Making Regionalism Work.* Harvard Law Review. 118: 2291-2313. 2005.
[71] Transportation Research Board of the National Academies. *Smart Growth and Transportation: Issues and Lessons Learned. Report of a Conference.* Grow, Robert. "Whose Future is It, Anyway? The Essential Public Process." September 8-10, 2002.
[72] *Making Regionalism Work.* Harvard Law Review. 118: 2291-2313. 2005.
[73] Transportation Research Board of the National Academies. *Smart Growth and Transportation: Issues and Lessons Learned. Report of a Conference.* Grow, Robert. "Whose Future is It, Anyway? The Essential Public Process." September 8-10, 2002.
[74] MaineDOT. "Gateway 1." http://www.gateway1.org/index.asp Accessed 10/15/2008.
[75] MaineDOT. "Gateway 1." http://www.gateway1.org/index.asp Accessed 10/15/2008.
[76] Fuller, Kat. PowerPoint Presentation "Collaborating on Competing Goals for Mutual Benefit: Gateway 1's Government and Public Partnership" Provided to Gary Toth and Kathleen Rooney on 11/14/2008.
[77] The Regional Transportation Advisory Committees were MaineDOT's local community stakeholder group prior to this process. As community representatives, they were instrumental in helping MaineDOT try this new decision-making model and evolved into the Steering Committee for the Gateway 1 process. The group later became part of the Phase 1 MOUs – evolving into the Steering Committee.
[78] Fuller, Kat. PowerPoint Presentation "Collaborating on Competing Goals for Mutual Benefit: Gateway 1's Government and Public Partnership" Provided to Gary Toth and Kathleen Rooney on 11/14/2008
[79] Common theme in research interviews with Gary Toth and Kathleen Rooney in November and December 2008.

[80] Fuller, Kat. PowerPoint Presentation "Collaborating on Competing Goals for Mutual Benefit: Gateway 1's Government and Public Partnership" Provided to Gary Toth and Kathleen Rooney on 11/14/2008
[81] MaineDOT "Gateway 1 Final Phase 1 Report" http://www.gateway1.org/new/final_phase1.asp Accessed 10/15/2008.
[82] MaineDOT "Gateway 1 Final Phase 1 Report" http://www.gateway1.org/new/final_phase1.asp Accessed 10/15/2008.
[83]Fuller, Kat. PowerPoint Presentation "Collaborating on Competing Goals for Mutual Benefit: Gateway 1's Government and Public Partnership" Provided to Gary Toth and Kathleen Rooney on 11/14/2008
[84] MaineDOT "Gateway 1 Final Phase 1 Report" http://www.gateway1.org/new/final_phase1.asp Accessed 10/15/2008.
[85] A full list is available at www.gateway1.org/background/steeringcommitte.asp Accessed 10/15/2008.
[86] MaineDOT. "Gateway 1." http://www.gateway1.org/discuss/index.asp Accessed 10/15/2008.
[87] MaineDOT "Gateway 1 Final Phase 1 Report" http://www.gateway1.org/new/final_phase1.asp Accessed 10/15/2008.
[88] MaineDOT "Gateway 1 Final Phase 1 Report" http://www.gateway1.org/new/final_phase1.asp Accessed 10/15/2008.
[89] Summarized from MaineDOT "December Progress Report" December 2008 Meeting Minutes http://www.gateway1.org/updates/Dec3SCmeetingminutesfinal.pdf Accessed February 12, Accessed 2/12/2009.
[90] Maine DOT Visual Assessment Chapter 9 http://www.gateway1.org/new/resources/Chapter%209_Conclusion_HD.pdf Accessed 2/12/2009.
[91]MaineDOT "Gateway 1 December 2008 Progress Report" http://www.gateway1.org/index.asp Accessed 2/21/2009.
[92] MaineDOT "New Corridor Data" http://www.gateway1.org/new/data.asp Accessed 10/15/2008.
[93] Summarized from the MOUs, provided by Kat Fuller on 11/19/2008
[94] Kat Fuller Interview (11/19/2008) with Gary Toth and Kathleen Rooney via phone.
[95] Also considered the following design forms - the status quo, a micropolitan form, and hybrids of all options.
[96] MaineDOT. "Gateway 1." http://www.gateway1.org/discuss/index.asp Accessed 10/15/2008.
[97] MaineDOT. "Gateway 1." http://www.gateway1.org/discuss/index.asp Accessed 10/15/2008.
[98] MaineDOT "December Progress Report" December 2008 Meeting Minutes http://www.gateway1.org/updates/Dec3SCmeetingminutesfinal.pdf Accessed February 12, Accessed 2/12/2009.
[99] Kat Fuller Interview (11/19/2008) with Gary Toth and Kathleen Rooney via phone.
[100] Kat Fuller Interview (11/19/2008) with Gary Toth and Kathleen Rooney via phone.
[101] Executive Summary: Attitude Survey, Gateway 1 Corridor http://www.gateway1.org/new/phase1/Major_themes_to_explore_Apr_06.pdf Accessed 10/15/2008.
[102] Kat Fuller Interview (11/19/2008) with Gary Toth and Kathleen Rooney via phone.
[103] MaineDOT. "Gateway 1." http://www.gateway1.org/discuss/index.asp Accessed 10/15/2008.
[104] Notes provided by Paul Cohn on 3/4/2009 to Ryan Thompson.
[105] Gary Toth Interview (11/14/2008) and Paul Cohn Interview (12/18/08) with Harrison Rue and Ryan Thompson
[106] Based on Herman Volk Interview (11/20/08) with Harrison Rue and Ryan Thompson and Report on "NJDOT Highway Corridor Demonstration Projects: A Summary Report of Participant Interviews and Interviewer Observations," Municipal Land Use Center at the College of New Jersey, May 2007.
[107] NJFIT. "Letter from the Commissioner." http://www.state.nj.us/transportation/works/njfit/links/letter.shtm Accessed 11/1/2008.
[108] Gary Toth Interview (11/14/2008) and Paul Cohn Interview (12/18/08) with Harrison Rue and Ryan Thompson
[109] NJFIT. "Frequently Asked Questions." http://www.nj.gov/transportation/works/njfit/links/faq.shtm Accessed 11/1/2008.
[110] New Jersey Office of Smart Growth. "Impact Assessment of the New Jersey State Development and Redevelopment Plan." http://www.nj.gov/dca/osg/plan/impact.shtml Accessed 11/1/2008.
[111] Gary Toth Interview (11/14/2008) with Harrison Rue and Ryan Thompson

[112] NJFIT. "Frequently Asked Questions." http://www.nj.gov/transportation/works/njfit/links/faq.shtm Accessed 11/1/2008.
[113] Gary Toth Interview (11/14/2008) and Paul Cohn Interview (12/18/08) with Harrison Rue and Ryan Thompson
[114] NJFIT. "Frequently Asked Questions." http://www.nj.gov/transportation/works/njfit/links/faq.shtm Accessed 11/1/2008.
[115] NJFIT. "Toolbox: Prescriptions for Wellness." http://www.state.nj.us/transportation/works/njfit/toolbox/ Accessed 11/1/2008.
[116] NJFIT. "Toolbox: Prescriptions for Wellness." http://www.state.nj.us/transportation/works/njfit/toolbox/ Accessed 11/1/2008.
[117] Paul Cohn Interview (12/18/08) with Harrison Rue and Ryan Thompson
[118] Paul Cohn Interview (12/18/08) with Harrison Rue and Ryan Thompson
[119] Notes provided by Paul Cohn on 3/4/2009 to Ryan Thompson.
[120] Notes provided by Paul Cohn on 3/4/2009 to Ryan Thompson.
[121] Notes provided by Paul Cohn on 3/4/2009 to Ryan Thompson.
[122] Notes provided by Paul Cohn on 3/4/2009 to Ryan Thompson.
[123] Gary Toth Interview (11/14/2008) and Paul Cohn Interview (12/18/08) with Harrison Rue and Ryan Thompson
[124] Notes provided by Paul Cohn on 3/4/2009 to Ryan Thompson.
[125] NJFIT Case Study material provided by Gary Toth on 1/19/2009.
[126] Gary Toth Interview (11/14/2008) and Paul Cohn Interview (12/18/08) with Harrison Rue and Ryan Thompson.
[127] Notes provided by Paul Cohn on 3/4/2009 to Ryan Thompson.
[128] Gary Toth Interview (11/14/2008) and Paul Cohn Interview (12/18/08) with Harrison Rue and Ryan Thompson
[129] NJFIT Case Study material provided by Gary Toth on 1/19/2009.
[130] NJDOT. "Mobility and Community Form." http://www.state.nj.us/transportation/community/mobility/ Accessed 12/20/08.
[131] NJDOT. "Mobility and Community Form." http://www.state.nj.us/transportation/community/mobility/ Accessed 12/20/08.
[132] NJFIT Case Study material provided by Gary Toth on 1/19/2009.
[133] Gary Toth Interview (11/14/2008) and Paul Cohn Interview (12/18/08) with Harrison Rue and Ryan Thompson
[134] Notes provided by Paul Cohn on 3/4/2009 to Ryan Thompson.
[135] Gary Toth Interview (11/14/2008) and Paul Cohn Interview (12/18/08) with Harrison Rue and Ryan Thompson
[136] NJFIT. "Case Studies: Evidence of Progress." http://www.state.nj.us/transportation/works/njfit/case/ Accessed 11/15/2008.
[137] NJFIT. "Toolbox: Prescriptions for Wellness." http://www.state.nj.us/transportation/works/njfit/toolbox/ Accessed 11/1/2008.
[138] NJDOT. "Mobility and Community Form." http://www.state.nj.us/transportation/community/mobility/ Accessed 12/20/08.
[139] Based on Herman Volk Interview (11/20/08) with Harrison Rue and Ryan Thompson and Report on "NJDOT Highway Corridor Demonstration Projects: A Summary Report of Participant Interviews and Interviewer Observations," Municipal Land Use Center at the College of New Jersey, May 2007.
[140] Joe Chila Interview (11/24/08) with Harrison Rue and Ryan Thompson
[141] Gary Toth Interview (11/14/2008) and Paul Cohn Interview (12/18/08) with Harrison Rue and Ryan Thompson
[142] NJFIT. "Frequently Asked Questions." http://www.nj.gov/transportation/works/njfit/links/faq.shtm Accessed 11/1/2008.
[143] NJFIT. "Frequently Asked Questions." http://www.nj.gov/transportation/works/njfit/links/faq.shtm Accessed 11/1/2008.
[144] Gary Toth Interview (11/14/2008) with Harrison Rue and Ryan Thompson
[145] Joe Chila Interview (11/24/08) with Harrison Rue and Ryan Thompson
[146]Gary Toth Interview (11/14/2008) and Paul Cohn Interview (12/18/08) with Harrison Rue and Ryan Thompson
[147] Paul Cohn Interview (12/18/08) with Harrison Rue and Ryan Thompson
[148] Gary Toth Interview (11/14/2008) with Harrison Rue and Ryan Thompson

[149] Gary Toth Interview (11/14/2008) with Harrison Rue and Ryan Thompson
[150] Based on Herman Volk Interview (11/20/08) with Harrison Rue and Ryan Thompson and Report on "NJDOT Highway Corridor Demonstration Projects: A Summary Report of Participant Interviews and Interviewer Observations," Municipal Land Use Center at the College of New Jersey, May 2007.
[151] It should also be noted that The 29 North Corridor Study was essentially a 'phase 3' continuation of the earlier 29H250 Study (2003 to 2005), phases 1 and 2, which applied the same principles to a much smaller study area (due to funding limitations) surrounding the intersection of US29, Rt. 250, and Hydraulic Rd. in Charlottesville and Albemarle County. http://www.tjpdc.org/transportation/29H250ph1.asp Accessed 12/18/08.
[152] Email correspondence with Harrison Rue, former director of TJPDC, rec'd 12/18/08
[153] McNeill, Brien "Places29: Smart tool for future or pipe dream?" *The Daily Progress* 12/14/08. http://www.dailyprogress.com/cdp/news/local/article/places29_smart_tool_for_future_or_pipe_dream/32789/ Accessed 12/15/08
[154] http://www.tjpdc.org/transportation/unjam.asp. Accessed 11/9/08. This area includes six member localities: the City of Charlottesville, and Albemarle, Fluvanna, Greene, Louisa and Nelson Counties.
[155] "UnJAM 2025 and Environmental Mitigation." http://www.tjpdc.org/pdf/unJam/Final_Env_Mitigation_web.pdf. Accessed 10/16/08.
[156] http://www.fhwa.dot.gov/tcsp/cvadeflt.html Accessed 11/9/08
[157] http://www.tjpdc.org/community/epi.asp. Accessed 11/9/08.
[158] From Google Maps www.google.com Accessed 11/9/08
[159] http://www.tjpdc.org/transportation/unjam.asp. Accessed 10/16/08.
[160] http://www.tjpdc.org/transportation/unjam.asp. Accessed 11/9/08
[161] [161] "Northern Development Areas – Framework Master Plan: Introduction." http://www.albemarle.org/upload/images/forms_center/departments/community_development/forms/Places29/Chapter1-Introduction.pdf. Created June 25, 2007. Accessed 10/17/08.
[162] http://www.tjpdc.org/transportation/unjam.asp. Accessed 11/9/08.
[163] http://www.terrain.org/articles/17/rue.htm Access 12/15/08
[164] Congress for New Urbanism Charter Awards. "The Congress for the New Urbanism's Charter Awards recognize excellence in architectural, landscape, and urban designs built in harmony with their physical, environmental, and social contexts as well as the publications, policies, plans, and codes that structure them." http://www.cnu.org/awards Accessed 1/4/09.
[165] "Places29 Overview: Information Sheet." http://www.albemarle.org/upload/images/forms_center/departments/community_development/forms/Places29/PL29Info1Overview2-20-07Final.pdf. Accessed 10/17/08.
[166] "Northern Development Areas – Framework Master Plan: Introduction." http://www.albemarle.org/upload/images/forms_center/departments/community_development/forms/Places29/Chapter1-Introduction.pdf. Created June 25, 2007. Accessed 10/17/08.
[167] http://www.terrain.org/articles/17/rue.htm Access 12/15/08
[168] http://www.terrain.org/articles/17/rue.htm Access 12/15/08
[169] http://www.tjpdc.org/ppt/unjam/UnJAM2_web.htm Accessed 1/4/09
[170] Rue, Harrison. "Recent Transportation and Land Use Planning Experiences in Charlottesville, Virginia." *Smart Growth and Transportation: Issues and Lessons Learned* September 8-10, 2002. Pages 40-46.
[171] Rue, Harrison. "Recent Transportation and Land Use Planning Experiences in Charlottesville, Virginia." *Smart Growth and Transportation: Issues and Lessons Learned* September 8-10, 2002. Pages 40-46.
[172] http://www.terrain.org/articles/17/rue.htm Access 12/15/08
[173] Metro Denver. "Population Demographics." http://www.metrodenver.org/demographics-communities/demographics/population.html Accessed 1/15/2009.
[174] Denver Regional Council of Governments (DRCOG). 2005. "Metro Vision 2035 Plan." <http://www.drcog.org/documents/WebMetro%20Vision%202035%20plan%20final%201-05.pdf> Accessed 13 October 2008.
[175] ICF International, 2008.

[176] Denver Regional Council of Governments (DRCOG). 2005. "Metro Vision 2035 Plan." <http://www.drcog.org/documents/WebMetro%20Vision%202035%20plan%20final%201-05.pdf> Accessed 13 October 2008.
[177] ICF International, 2008.
[178] Marie Venner interview with Bill Johnston.
[179] City and County of Denver. "Downtown Denver Area Plan." http://www.denvergov.org/Planning_Services/SmallAreaPlans/DowntownAreaPlan/tabid/428668/Default.aspx Accessed 12/12/2008.
[180] City and County of Denver. 2008. "Moving People: Denver Strategic Transportation Plan." < http://www.keepdenvermoving.com> Accessed 16 October 2008.
[181] Denver Parks and Recreation & City and County of Denver, 2003.
[182] Interview with Steve Gordon.
[183] McGraw-Hill Co. Inc. 1998. Going underground: Civitas honored for Speer tunnel landscape design. *Colorado Construction* 1(5):30.
[184] City and County of Denver. 2000. "Cherry Creek Greenway Corridor Master Plan Report." <http://www.denvergov.org/Portals/485/documents/Cherry%20Creek%20Master%20Plan%20Report.pdf> Acessed 10 November 2008.
[185] City and County of Denver. 2008. "Moving People: Denver Strategic Transportation Plan." http://www.keepdenvermoving.com/pdfs/whats_new_/DenverSTP_8-5x11.pdf Accessed 16 October 2008.
[186] Denver Regional Council of Governments (DRCOG). 2007. "Metro Vision 2035 Summary Brochure." <http://www.drcog.org/documents/MV%20plan%20brochure%202%2011x17.pdf> Accessed 13 October 2008.
[187] Denver Regional Council of Governments (DRCOG). 2008. "Blueprint Denver Implementation Update." <http://www.denvergov.org/Blueprint_Denver/BlueprintDenverImplementation/tabid/378736/Default.asp> Accessed 14 October 2008.
[188] City and County of Denver. "Draft Blueprint Denver 2001 Chapter 10." http://www.denvergov.org/Portals/145/documents/Chapter_10.pdf Accessed 12/15/2009.
[189] Speer Boulevard-First Ave.-Leetsdale Corridor Meeting Notes. 31 March 2007. <http://gwhoa.org/gwhoa/page.html?pf=yes&page_id=31> Accessed 13 October 2008.
[190] 2008. "Implementing living streets: Ideas and opportunities for the City and County of Denver."
[191] Federal Highway Administration. 2006. "Denver Multi-Modal Street Type Designation System." <http://www.fhwa.dot.gov/planning/landuse/denvercs.htm> Accessed 13 October 2008.
[192] Community Planning and Development. 2007. "Implementing Blueprint Denver: Transit-oriented Development." <http://denvergov.net/Portals/193/documents/misc/TOD_newletter_June%C2%AD_2007.pdf> Accessed 13 October 2008.
[193] Denver Regional Council of Governments (DRCOG). 2002. "Blueprint Denver: An Integrated Land Use and Transportation Plan." <http://www.denvergov.org/portals/145/documents/BlueprintDenver.pdf> Accessed 13 October 2008.
[194] City and County of Denver. 2008. "Moving People: Denver Strategic Transportation Plan." < http://www.keepdenvermoving.com> Accessed 16 October 2008.
[195] City and County of Denver. 2008. "Moving People: Denver Strategic Transportation Plan." < http://www.keepdenvermoving.com> Accessed 16 October 2008.
[196] Denver Regional Council of Governments. "MetroQuest." http://www.drcog.org/index.cfm?page=MetroQuest Accessed 1/14/2009.
[197] Schaufele, Jennifer. "2006 FHWA/FTA Transportation Planning Excellence Awards. Award Category: Transportation and Land Use Integration."
[198] Denver Regional Council of Governments (DRCOG). 2002. "Blueprint Denver: An Integrated Land Use and Transportation Plan." http://www.denvergov.org/portals/145/documents/BlueprintDenver.pdf Accessed 13 October 2008.