LONG-RANGE PLAN RECOMMENDATIONS

Introduction

A metropolitan area's economic and social health depends largely on the performance of its transportation system. Not only does the transportation system provide opportunities for the mobility of people and goods, but also over the long term, it influences patterns of growth and the level of economic activity through the accessibility it provides to land. In addition, it provides connections to other metropolitan areas, to the nation, and to the world. Recent legislation such as Moving Ahead for Progress in the 21st Century (MAP-21) and the Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA-LU) incorporated an assortment of national and community objectives aimed at creating changes in the urban transportation system. The motivation for many of these changes was the desire to improve air quality, to enhance the viability of economic activity centers, to provide services to those needing mobility (such as low-income households, persons with disabilities, and the elderly), and to promote sustainable community development. Planning becomes a very important activity when developing or maintaining an urban transportation system. It is important because it promotes the efficient movement of people, goods, and services in a metropolitan area and provides a strong, supportive role in attaining other community objectives.

The primary purpose of the planning effort is to generate information useful to decision makers for the specific types of decisions they will face. Metropolitan-level transportation decision making involves many agencies and groups. This creates different levels of complexity and purpose. Because of this, there is a need from a regional perspective to fit all of these activities together in a cooperative and comprehensive way. This is one of the major purposes of transportation planning. It can only be effective if it provides useful information to those who must make decisions. Transportation planning must provide accurate and timely information to understand fully the short and long-term consequences of each alternative. Planning should examine a wide range of agendas, values, and objectives in order to increase the chance of making better decisions.

All decisions involve evaluating the alternatives with the expectation of selecting the best one. Decision-making involves two things: (1) will the actions taken today mirror, or reflect, the societal directions of tomorrow, and (2) does the evaluation system accurately summarize the preferences for the characteristics of likely decision outcomes? Often, in the case of urban transportation, this evaluation system ties intricately to societal values and goals as expressed in the political decision-making process. Because most decisions are political in nature, it is imperative to establish good communication with decision makers so that they have access to substantive planning products and processes.

The degree of uncertainty associated with expected consequences has a definite influence on evaluations and decisions. Implicit and explicit assumptions about the likely consequences of alternative decisions, and the future state of the urban area after implementation of the decision, can have a direct effect on decisions regarding future actions. Thus, the greater the degree of uncertainty associated with these assumptions, the higher the value placed on decisions that leave future options open.

WFMPO's decision-oriented approach to urban transportation planning focuses on the needs of the decision makers and recognizes the often-limited capability of individuals unfamiliar with technical analysis to interpret the information produced. MPO staff strives to give our decision makers not only the information they desire but also the information they need in order to provide them with a more complete understanding of the problem and the implications of the different solutions. At its most challenging level, transportation planning focuses on balancing the many competing visions of what the future should look like and on developing an informed program of action among competing interests that will improve a community's quality of life and enhance transportation system performance.

Operational and Management Strategies

Transportation Supply

Transportation planners characterize a transportation system by its performance, which normally looks at its travel times, frequency of service, safety, and reliability. Engineers and planners must also take into consideration the corresponding impacts on the environment, and the costs incurred in building, maintaining, and using the system. Planners refer to the networks, facilities, and services that are part of the system, and their corresponding characteristics, as the transportation supply.

Developing and managing the supply of transportation is a primary focus of an effective transportation planning process. At its highest level is the *metropolitan network analysis for strategic investment*. This level of analysis generally involves examining alternative modal networks, typically at the regional or area-wide scale. Decisions at this level relate to such things as adding new roads or transit facilities to the network, adopting regional land-use or taxation policies aimed at influencing travel behavior, or adding new Intelligent Transportation System (ITS) technologies that will affect individual trip-making choices. Transportation planners usually measure these types of decisions in years, and sometimes in decades. The complexity of analyses stems from the size of the networks under assessment, which can involve thousands of nodes and tens of thousands of links.

The opposite end of the spectrum involves *operational or tactical planning* where a very common supply analysis, particularly for operating agencies, is the analysis of individual routes, links, or terminals. At this level, transportation planners consider only a small network, usually consisting of an individual facility or service such as a transit route or a freeway and its linkages to the rest of the system. The planning timeframe for these types of analyses is often short, usually from one to 3 years. The types of decisions in this environment focus on operational changes. There is a much broader range of analysis techniques for operations planning than for strategic network analysis and includes everything from simple pencil and paper calculations to computer simulation programs. The choice of technique depends on the specific nature of the problem, the data available, the capabilities of the planner, the time and budget available for the analysis, and the accuracy and level of detail of the information required for the decision-making process.

There are five major components of a transportation system.

- The system user
- The mode or technology of travel
- The infrastructure that allows the travel to occur
- The intermodal connections for transfers
- The stakeholders that either influence, or are affected by, the performance, impacts, and costs of the transportation system

Individually or in combination, any one of these can have an important focus on the analysis of transportation supply. However, of the five components, the most important to the supply analysis is the transportation infrastructure, which includes the rights-of-way over which travel occurs (roads, tracks, sidewalks, etc.), the signal systems that control traffic flows, terminals, and all other facilities required to operate and maintain the transportation system, in particular vehicle storage, servicing, and maintenance facilities. It also includes the routes and schedules (where applicable) that govern the operation of the services and the procedures for operating the system, which includes everything from government regulations, such as speed limits, licensing requirements and service standards to the labor agreements concerning driver working conditions.

In summary, a transportation supply analysis interacts with the planning process in three major ways. First, the performance and cost characteristics are important determinants of the demand for transportation, while demand levels in turn affect system performance. Second, the measures of system performance, impacts, and costs are important evaluation criteria. Third, a transportation supply analysis contributes towards the monitoring and diagnostic planning functions of the metropolitan planning organization.

Transportation System Operations and Management

The previous transportation reauthorization bill known as SAFETEA-LU (Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users) was signed into law in 2005. It established the requirement that all MPO's must take into consideration system operations and management when updating their metropolitan transportation plan. Subsequently, SAFETEA-LU added the responsibility of management and efficient operation of the transportation system to the list of items that MPOs must address in their MTPs. This responsibility carried over into the Moving Ahead for Progress in the 21st Century Act of 2012 (MAP-21) and all MPO's continue to acknowledge the prudence of maintaining the existing assets of their regional transportation system.

The list of activities that make up the management and efficient operation of the existing transportation system include:

- Traffic incident management
- Travel information services
- Roadway weather information
- Freeway management
- Automatic vehicle location

- Traffic signal coordination
- Work zone management
- Electronic payment/toll collection
- Transit priority/integration
- Emergency response and homeland security
- Freight management
- Transportation demand management
- Transit fleet management and dispatching

Many of these tasks are outside the direct control of the MPO. However, not every task applies or is of concern to every MPO. Two tasks that do not apply to WFMPO are automatic vehicle location and electronic payment/toll collections. Table 7-1 indicates each agency's responsibilities for the relevant items on the above list. All the agencies involved in the management and efficient operation of the transportation system are members of one or more of WFMPO's committees.

Table 7-1 Operational & Management Tasks	TxDOT	Texas DPS	Wichita & Archer Counties	City of Wichita Falls	BNSF Railroad	Sharplines	TAPS
Traffic incident management		✓		✓			
Travel information services	✓			✓			
Roadway weather information	✓			✓			
Freeway management	✓		✓				
Traffic signal coordination	✓			✓			
Work zone management	✓		✓	✓	✓		
Transit priority/integration				✓		✓	✓
Emergency response and homeland security		✓	✓	✓			
Freight management					✓		
Transportation demand management	✓		✓	✓			
Transit fleet management and dispatching				✓		✓	✓

WFMPO's overarching goal for our region is to have a safe, cleaner, integrated, sustainable, and highly efficient multimodal transportation system that supports regional growth and promotes economic and environmental vitality, and better public health. WFMPO's Vision 2040 plan provides a framework for long-range transportation planning in the region by integrating freight, highways, local roads, transit, bicycling, and walking. The regional perspective for transportation recognizes the critical link between transportation, land use planning, economic development, and the environment.

In order to achieve success, WFMPO has identified several operational and management strategies to help us reach our goal. Strategies to achieve this goal are:

- Utilize access management strategies to make best use of existing transportation facilities as well as enhancing transportation improvements
- Coordinate land use and transportation to encourage transit, multiple-occupancy vehicles, cycling and walking
- Coordinate land use and transportation to support the safe and efficient movement of vehicles for passengers, goods and services
- Promote land development patterns that support a diverse regional economy and employment close to where people live
- Protect and enhance natural features and their connectivity
- Encourage land use and transportation infrastructure that reduce energy consumption and greenhouse gas emissions, and improve air quality
- Encourage land use and transportation infrastructure that improve the ability to withstand climate change impacts and natural hazard risks
- Develop healthy and complete communities with access to a range of services and amenities

Safety and Security Activities, Policies, and Programs

Transportation Safety and Security

The primary goal of any traveler is to arrive at their destination safely. Over the past three decades, transportation fatality rates have declined as measured in relationship to system usage. The USDOT Bureau of Transportation Statistics reported that from 1975 to 2000 the national rate for the number of fatalities per 100-million vehicle miles traveled dropped from 2.5 to 1.5. Compared to the national rate, the rate for Texas was slightly higher at 1.7. The Bureau's research indicated that occupants of passenger cars and light-duty trucks have much higher fatality rates than occupants of large trucks do. Motorcyclists have fatality rates an order of magnitude greater than the other modes. The data clearly illustrates the differences are because of the greater size and mass of the larger vehicles. The declining fatality rates from 1975 are most likely due to safety belts, airbags, child safety seats, and motorcycle helmet use, in addition to police enforcement of tougher drunk-driving laws.

Metropolitan areas with large concentrations of population are particularly susceptible to higher rates of pedestrian and bicycle crashes. In 2000, for example, 4,739 pedestrians and bicyclists in the United

States died in crashes with motor vehicles. This disproportionate amount of fatalities is not surprising when you consider the significant disadvantage that pedestrians and bicyclists have when colliding with a motor vehicle. For example, the Bureau of Transportation Statistics (BTS) reported that in 1997 pedestrian and motor vehicle crashes accounted for only 2 percent of the total injuries nationally, but 13 percent of the fatalities. Injury crashes killed six percent of the pedestrians involved, and 24 percent had incapacitating injuries. The respective percentages for motor vehicle occupants were 1 and 12 percent. More importantly, the crash statistics represent children and the elderly disproportionately. Children 5 to 15 years old accounted for 16 percent of the U.S. in 1997 but 29 percent of the pedestrian injuries and 9 percent of the pedestrian fatalities during that year. Adults 65 and older, who represented 13 percent of the population at that time, accounted for 8 percent of the injuries and 22 percent of the fatalities. The BTS report for 2000 shows that out of the total number of traffic fatalities in Texas (3,769) that 10.9 percent of them (412) involved pedestrians or bicyclists. The pedestrian/bicyclist fatality rate per 100,000 people for that year in Texas was 2.0 percent.

Tables 7-2 and 7-3 show the frequency of crash types for pedestrians and bicyclists. The tables illustrate that the most frequent type of crash occurs where the geometric design of the transportation system causes or allows the different travel flows to intersect. This is especially true in urban areas, which suggests that planners and engineers should take extra special care when designing intersections, pedestrian walkways, and bicycle paths so that they are safe. One of WFMPO's specific objectives over the next five years is to target and improve areas of risk for bicyclists, pedestrians, and other forms of non-motorized transportation. We will do this by working with our planning partners to research and identify areas of high risk to bicyclists and pedestrians. Then we will implement strategies, plans, and programs designed to help protect non-motorized transportation users.

Table 7-2 Pedestrian Crash Types

Crash Type	Percentage of Crashes
Crossing at intersections	32
Crossing at midblock	26
Not on road (e.g., parking or near curb)	9
Walking along road/crossing expressway	8
Backing vehicle	7
Working or playing on road	3
Othere	15
Total	100

SOURCE: BTS, 1999

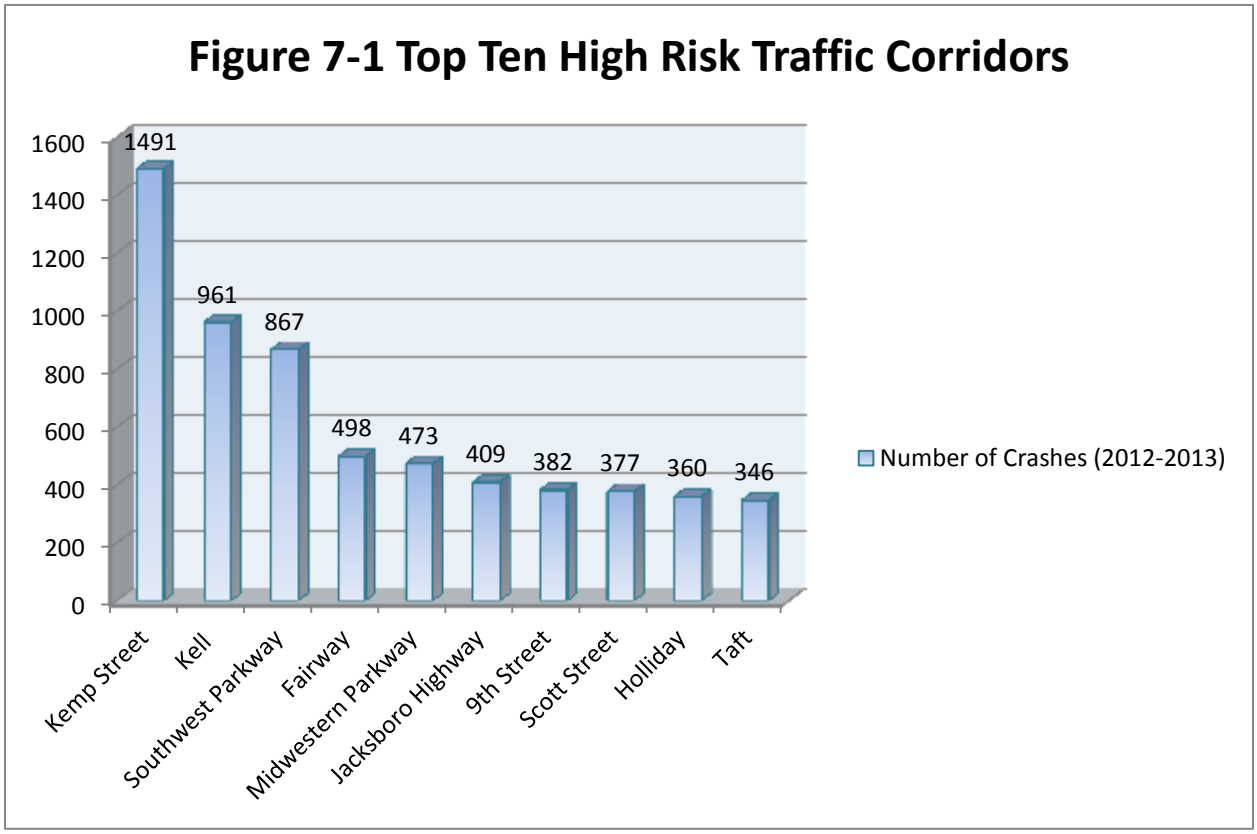
Table 7-3 Bicycle-Motor Vehicle Crash Types

Crash Type	Percentage of Crashes
Crossing paths	57
Parallel paths	
Motorist turned into path of bicyclist	12
Motorist overtaking bicyclist	9
Bicyclist turned into path of motorist	7
Bicyclist overtaking motorist	3
Operator on wrong side of road	3
Operator or motorist loss of control	2
Other circumstances	7
Total	100

SOURCE: BTS, 1999

Safety is one of the most important transportation elements to consider in the MTP update process. WFMPO will continue to work with all of its planning partners to identify areas of concern within our transportation network. One of our main goals is to target and improve areas of risk for motorized and non-motorized transportation. The number of people killed annually on U.S. roadways is the equivalent of two jumbo jet crashes every week, a situation that would prompt widespread outrage and action. Not only do those involved directly in traffic crashes feel the consequences, but family members, friends, and coworkers must deal with a devastating loss or find resources to cope with disabling injuries. The costs to society such as lost productivity, property damage, medical costs, emergency services, and travel delays are also tremendous.

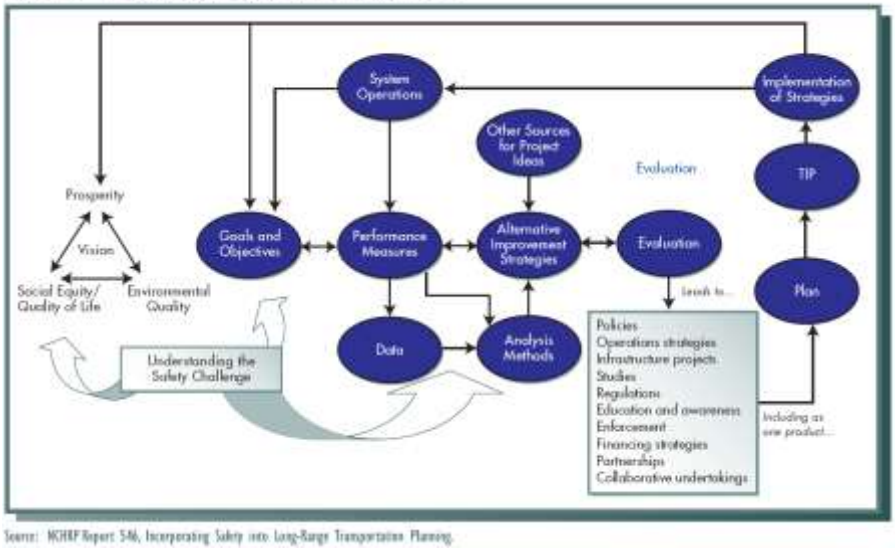
In Section 2 of this update, WFMPO identifies as one of its main goals the increase of the safety and security of our local transportation network. We will establish a 2015 baseline of automobile related accidents and fatalities of all the major intersections across the WFMPO area. Our target will be to reduce accidents and fatalities annually over the next five years by utilizing the latest innovative techniques, strategies, and technologies. Figure 7-1 is illustrates the top ten traffic corridors where more needs to be done to reduce the number of crashes on these high volume roadways.



Many transportation plans establish safety as a goal, but they often do not integrate safety throughout the process or ensure funded projects and programs have a measurable impact on safety. The design, construction, operation, and maintenance of a transportation system greatly affects travel safety. Given

that transportation planning leads to changes in the transportation system, WFMPO will continue to integrate safety and security into the planning process wherever possible. Figure 7-2 illustrates the process for incorporating safety into long-range transportation planning.

Figure 7-2. The Relationship of Safety to the Planning Process



Source: NCHRP Report 546, Incorporating Safety into Long-Range Transportation Planning

Capital Investment Strategies

The completion of a long-range transportation plan and a transportation improvement program are just the beginning of a successful strategy for investing in a metropolitan transportation system. The transportation plan must implement the projects and services that it proposes. This requires funding and institutional capability. Without adequate capital and operations/maintenance funding, the ability of transportation officials to preserve and enhance the transportation system would be severely constrained. Without institutional capability and flexibility, transportation organizations might be unable to respond to a changing policy environment. Funding and institutional capability are clearly prerequisites for any improvement to the transportation system.

Nontraditional Funding

Transportation requirements in a metropolitan area often far exceed the level of available funding. Traditional sources of funding such as motor fuel, sales, and property taxes do not provide enough revenues to meet these needs. Many states and metropolitan areas use a variety of nontraditional funding strategies that fall under the label of “innovative financing”. In very broad terms, innovative financing includes any strategy that does not rely solely on conventional highway user fees and taxes. Such strategies have included toll roads, privatization of services, infrastructure banks, revolving loan fund, federal loan programs, advanced construction financing, and cross-border leasing for transit investments. Public-private transportation financing strategies commonly found in metropolitan areas include toll roads; development fees, exactions, and value-added taxation; and privatization.

Toll road financing comes in several ways. For example, general obligation bonds, revenue bonds, revenue bonds supplemented by income other than that paid by users, private financing, or any

combination of the above. The operators of the new facilities use the toll revenues generated to pay off the principal and interest of these bonds. WFMPO and its planning partners have considered tolling options in the past to pay for needed improvements. However, we do not have the population density to support these types of systems.

Development fees, exactions, and value-added taxation are all part of the public-private partnership model that requires private groups to contribute to the cost of the transportation improvement need to handle the additional demand associated with a development site. The most common ways of collecting these revenues is through development fees, exactions, or taxation of the enhanced accessibility (added value) of land. Assessment districts, special districts, development agreements, development or impact fees, tax increment financing, and privatization are all forms of enabling institutional mechanisms.

Privatization of transportation facilities and services has the highest level of private involvement of public-private partnerships. Privatization simply means shifting the responsibility of providing transportation services from the public sector to private providers. Privatization is not a new phenomenon to transportation. Private operators built, operated, and maintained many of the early roads and transit services in the United States. There are many benefits to privatization. Taxpayers gain from not having to participate in an uncompensated contribution because private equity or debt replaces public investment. Taxpayers may also realize gains from more efficient operation of facilities or services. Investors would gain if they were able to capture the user fees and other revenues in sufficient quantity to provide them a return on investment. The largest societal benefits from privatization occur where efficiency gains are the greatest and where private operators face effective competition.

Public-private partnerships created to finance transportation projects can encounter significant barriers. Many of these relate to the assumption of investment risk or the appropriate roles of government agencies and private investors. Implementation of a transportation project through a public-private partnership requires a balance between providing a public benefit while producing a private gain. Some of the major issues that can hinder these partnerships include:

- *Financial barriers:* The basic enabling criterion for private sector involvement is financial viability. There are many risks associated with this financial viability including start-up financing problems, unsure demand levels and resultant uncertain income streams, fluctuating construction costs, general exposure to liability, and the environmental review process.
- *Equity capital:* Private investors may have problems obtaining investment dollars through the private equity capital market because of lending operating procedures and constraints imposed by the market. Lenders often view collaborating with a government agency as a risky investment, or at least one that will not provide much return on investment.
- *Concession or franchise agreements:* Government agencies that oversee the operation of a service or public facility by a private entity will generally require minimum design and operating characteristics, risk assignment, regulatory oversight, provisions for public funding participation, tort liability guarantees, right-of-way provisions, and an agreement on default conditions.

- *Constitutional powers of state agencies:* State constitutions provide very specific limitations in the mission and authority of state agencies. The fulfillment of the governmental role of a public-private partnership becomes an important issue because of constrained state contractual or police powers and the limited flexibility to use federal or state funds.
- *Procurement:* The procurement of goods and services subjects governmental agencies to stringent conditions. Private organizations often do not have such limitations. Governments usually must solicit proposals through a competitive bid process whereas the private sector can sole source an item or service. Other issues can include business set-asides, protection of intellectual property, and use of the design/build contracting process.
- *Permitting process:* Environmental clearances often take a long time and can potentially lead to project delay. The environmental analysis process could add a great deal of risk to a private investment.
- *Tax structure:* The combination of public tax-exempt financing with taxable private investment financing can add a high level of complexity to a project. Large projects usually incur most of their costs up front while most of the benefits occur over a longer period. High tax rates on private investment early in the project, with the promise of revenues happening in the future, create a significant disincentive to invest.
- *Community and government support:* MPO's and DOT's must provide opportunities for public involvement when planning most transportation projects. Because of the unusual funding nature of a public-private partnership, public participation could be either a positive or a negative influence on the ultimate outcome. Public support could be critically important when trying to gain the necessary approvals from government officials and agencies. However, if the public perceives that a partnership is not good for the community, or deliberately avoids the safeguards put into place for public projects, then the public involvement process could become a source of frustration and delay.

With some exceptions, private investment usually targets a particular project. Private financial contributions are not a reliable or stable funding source for a regional program of transportation improvements. User fees will most likely remain the most important source of transportation funding for the near future. However, the perceived higher cost of travel due to additional user fees has already met with some strong opposition from the public. For example, many view the implementation of a regional toll system or congestion pricing as just another form of taxation. In order to have success overcoming this type of opposition, MPO's and DOT's must do three things:

- *Communicate the problem clearly:* the public must understand that the problem is imminent and that the project will address the problem. Without some motivation to address a problem most people are content to keep the status quo.
- *Prove that the program will work:* Assuming we can motivate the public to accept a change in finance, we must prove that the new program will actually accomplish congestion reduction and mobility goals. In addition to effectiveness, the public must view the financing program as being

simple, fair, seamless, and user-friendly. Most importantly, we must show that it is better than the current system.

- *Work slowly and carefully toward implementation:* Successful implementation of a new financing scheme hinges on increasing the public's awareness of the basic problem and our solution to fix it. We must clearly explain the connection between the solution and the problem along with clearly describing all of the program elements in non-technical language.

Institutional Capability

The key ingredient to implementing successful capital investment strategies is institutional capability. No matter how large an organization becomes, it must acquire and retain the types of skills and analytical capabilities needed to implement, operate, and maintain transportation projects and systems. Several important institutional issues can either facilitate project implementation or serve as barriers to implementing a project or program. These concerns group roughly into six major categories – organizational, leadership and management, legal and regulatory, technological, impacts and benefits, and financial. Many of these issues are common to all types of transportation projects.

Organizational barriers can include perception of loss of control, differing agency objectives, thinking limited on solutions, difficulties cooperating across borders, cultural differences between public and private organizations, lack of trust, unclear definitions of goals and roles, resistance to change, and lack of staff continuity. Most of these barriers are uncommon in well-organized agencies, but if they occur, they can have high impacts to the successful implementation of a project or program.

Leadership and management can encounter moderate to high impact barriers such as lack of advocates at the staff level, no advocates at top management, failure to provide leadership, lack of interagency communication, overly large steering committees, inadequate committee representation, un-empowered steering committees, inability to maintain interest, devoting planning resources to low-priority areas, difficulties in agency's contracting, failure to shoe progress, ignoring maintenance and operations staff, trying to accomplish too much, lack of written documentation, uncertainty over long commitment, and overly complex procurement. Unfortunately, many of these barriers are common in the implementation of transportation projects and programs.

Legal and regulatory barriers are less common but can still have moderate to high impacts on project implementation. These barriers include liability concerns, regulatory limitations, difficulty in intellectual property rights, regulations on cross-border projects, and organizational conflicts of interest. Most of these barriers have a moderate to high potential for resolution.

Barriers to technologies can include the fear of technological obsolescence, inattention to details, lack of technical standards, and limited amounts of specific materials, processes, or resources. These are less common but can have moderate to high impacts on project implementation if not addressed early on in the planning process.

Impacts and benefits refer to the public's perception of a project or program. How will this program or project affect or benefit their community or neighborhood? Many times the lack of information

distributed to the public about the impact of a project can delay, impede, and in some cases, cancel the project altogether. Other barriers include environmental impacts, public reaction against technologies that compromise privacy, the inability to communicate the benefits of a project, the inequitable allocation of benefits, and the perception that the project will not solve the problem.

Financial barriers generally have the highest impact on a project or program. These can range from the inability to secure state or local funding as leverage for federal funding, to the lack of funding for operations and maintenance of existing facilities, to justifying the expense of a project or program, to discovering that a needed project has a very low priority in the eyes of the public and stakeholders.

In order to bring more transportation projects online, planners and engineers must find ways to reduce, mitigate, or eliminate these barriers. MPO's should focus on lessons learned from earlier transportation projects, which include the following.

- *Customer orientation*: MPO's and their planning partners should ensure that the delivery of transportation projects and programs focuses on the needs of the customer, including commuters, travelers, transit riders, and goods transporters. Long-term success depends on the public perception that we are providing a useful service.
- *Problem-solving emphasis*: MPO's need to emphasize that the application of the project or program will address problems such as improving travel convenience and safety to the public. Successful implementation of a project generates good will with the traveling public, which can carry over into the next project.
- *Integration*: The best projects find ways to incorporate a broad array of techniques to address transportation problems. For example, a transit oriented development project might utilize mixed-use development, strong connections, concentrated development, buildings fronting the street, good vehicle circulation, creation of a pedestrian and bicycle friendly environment, on-street parking, and structured parking to achieve the desired goal of a walkable, livable community or town center.
- *Partnerships*: Rarely do single agencies achieve large, long-term projects. Partnerships bring agencies together over across geographic boundaries and lines of functional responsibility. Long-term support for a project or program most often includes some type of public/private partnership.
- *Communication with elected and appointed officials:* Elected official support is essential to the success of a long-term of a project. Developing this support requires MPO's to provide continuous attention, information, and education to their elected bodies and appointed officials.
- *Maintaining credibility:* the public mistrusts projects that do not work predictably and consistently. Failure to maintain credibility can ultimately erode support for the project. Maintaining credibility clearly links to customer orientation.

Over the course of the next five years, WFMPO will endeavor to utilize as many of these capital investment strategies as possible to find, acquire, and program funding for projects on the 2015-2040 Metropolitan Transportation Plan (MTP) project list. Specifically, WFMPO will focus on locating funding

for projects on the 2014-2015 WFMPO Prioritized Project List with the goal of moving some of these projects into our 2015-2018 Transportation Improvement Program (TIP). Because traditional funding sources continue to dwindle, WFMPO created Goal Number 5, located in Section 2 of this long-range plan update, to focus our energies on discovering non-traditional funding sources. WFMPO will apply, and compete, for as many of these funding streams as possible in order to fund projects on our prioritized project list. WFMPO staff will update the 2015-2040 MTP project list, the TIP, and the WFMPO Prioritized Project List annually or as often as required.

Environmental Mitigation Activities, Policies, and Programs

Law and Legal Definition

Environmental mitigation activities means "strategies, policies, programs, actions, and activities that, over time, will serve to avoid, minimize, or compensate for (by replacing or providing substitute resources) the impacts to or disruption of elements of the human and natural environment associated with the implementation of a long-range statewide transportation plan or metropolitan transportation plan. The human and natural environment includes, for example, neighborhoods and communities, homes and businesses, cultural resources, parks and recreation areas, wetlands and water sources, forested and other natural areas, agricultural areas, endangered and threatened species, and the ambient air. The environmental mitigation strategies and activities are intended to be regional in scope, and may not necessarily address potential project-level impacts." [23 CFR 450.104; Title 23-Highways; Chapter I-Federal Highway Administration, Department Of Transportation; Subchapter E-Planning And Research; Part 450-Planning Assistance And Standards; Subpart A -Transportation Planning And Programming Definitions]

Analysts and engineers use the term mitigation during an environmental review of proposed transportation projects to refer to measures that reduce the project's impact on the environment. The avoidance and minimization of environmental impacts are the goals of mitigation. Traditionally, engineers consider and select mitigation measures at the project level while in the final design stage of project development, in conjunction with regulatory requirements and permits. They refer to this traditional approach as a single project-based mitigation, which they can conduct on-site or off-site. As an alternative to the traditional approach, advanced compensatory mitigation allows for developing compensatory mitigation strategies and mechanisms well in advance of a project, or multiple projects, at the planning stage rather than at the project final design stage. Advanced compensatory mitigation in the form of ecosystem approaches continues to gain acceptance because they can lead to greater predictability in transportation project timelines and result in higher quality, more strategically located, mitigation sites.

Types of Potential Mitigation Activities

Concepts for implementing environmental mitigation can take many forms depending on the types of resources and level of transportation impacts on the region. Other factors such as agency consultation, funding, availability of land, growth and development, also determine where, when, and how mitigation occurs. Mitigation mechanisms may also include the purchase, trade, and banking of greenhouse gases

offsets or credits by independent, qualified organizations with proven experience in emissions mitigation activities. Some example mitigation strategies include:

- Wetland and upland conservation and restoration
- Detention and sediment basins
- Use of buffer strips along streams and rivers
- Enhancement of parkland or recreation areas for a community
- River clean-ups
- Habitat and animal connectivity strategies to prevent fragmentation
- Watershed based strategies
- Implementation of effective planning and zoning strategies to promote green space conservation

The resource categories presumed to have the greatest potential to restore and maintain environmental functions consist of wetlands, streams, wildlife, threatened and endangered species, cultural resources, public recreation areas, and farmlands.

Environmental Stewardship

Over and above the regulatory related requirements of mitigation are the environmental stewardship practices for the design and construction of transportation projects. Environmental stewardship involves activities to improve environmental conditions not just to comply with environmental regulations, but also to improve the environment and the quality of life whenever practical. Collectively, these practices can minimize environmental impacts and maintain environmental functions affected by transportation construction projects. Environmental stewardship activities in transportation have many application areas including construction practices near wetlands or sensitive environmental areas, construction practices near cultural resources, air quality controls, construction noise reduction, fuel /potentially toxic material storage during construction, vegetation management during construction, winter maintenance and chemical control, roadside vegetation management, maintenance facilities management, and many more.

Roads, highways, and bridges can have a wide variety of environmental impacts. The best way to avoid these impacts is first to identify and understand what environmental resources and issues exist in a proposed project area. We can then incorporate this information into the planning and design phases to minimize or avoid any foreseeable negative impacts altogether. WFMPO will continue to consult with TxDOT and other resource agencies prior to the National Environmental Policy Act (NEPA) review process of projects in order to create effective mitigation strategies.

Finally, in the future, we expect that environmental justice considerations will play a more prominent role in planning for environmental mitigation. It is common to have multiple, different environmental justice maps that are kept separate from other environmental resource maps. Overlaying environmental justice and environmental mitigation maps can help identify issues, such as inequitable distribution of

transportation services or access to clean air and water, not always previously addressed in planning environmental mitigation.

Transit Enhancement Activities, Programs, and Strategies

Falls Ride

In Section 6 of this update, WFMPO staff compiled a comprehensive list of current transportation plans for our area. One of the most important plans in this section is the Public Transportation Plan. This plan documents the restructuring of the Wichita Falls Transit System back in 2008 and how the City of Wichita Falls reduced headways, added one new route (Connector 7) and rebranded the system to attract more riders. Falls Ride, the new name selected for the bus system, continues to grow its ridership every year. In fact, the Transit Administrator estimates that Falls Ride will increase its ridership to over 500,000 trips by the end of 2016. Part of this growth is directly attributable to the partnership between Falls Ride and Midwestern State University (MSU) to carry many of their students that live in nearby apartment complexes to and from campus. Sheppard Air Force Base (SAFB) also continues to utilize the services of Falls Ride, but at a reduced rate. The number of trips produced by the personnel at the base has dropped significantly from approximately 111,133 in fiscal year 2011 to just over 65,736 in fiscal year 2014. This happened because the U.S. Air Force consolidated many of its training programs due to the Base Realignment and Closure (BRAC) Commission recommendations of 2005. Sheppard Air Force Base lost some of its key training missions in the medical field and in aircraft maintenance, from which it has not completely recovered.

While there have been a few setbacks over the past few years, Falls Ride continues to enjoy a robust economy and to serve its core ridership, which are the citizens of Wichita Falls. As a service type, Falls Ride functions as a *community transit network* that focuses more on accessibility and service coverage where speed is not the major concern. The ability to deviate from the main routes makes Falls Ride very flexible in its ability to serve the community, which includes elderly and handicapped people. In addition to Falls Ride, the new Downtown Travel Center built in 2013 provides transit opportunities for intercity bus movements. *Interurban public transportation* services include passenger rail, intercity bus (i.e. Greyhound and Jefferson Bus Lines), and passenger intermodal terminals or transfer points.

Public transportation is part of the hierarchy of subsystems, components, and relationships that make up the overall transportation network. Starting at its lowest level, this hierarchy consists of individual vehicles or travelers, facilities and terminals, and modal networks and services, all leading to an integrated transportation system with effective connections among all of the other system elements. These elements include other transit services, pedestrian facilities, airports, seaports, and bicycle paths.

WFMPO has been a close partner with Falls Ride for many years. Our goal is to continue to strengthen that partnership so that we can implement transit projects that will benefit not only the community of Wichita Falls, but also the entire planning area. One of the targets listed in our goals and objectives is to create a coalition of area transit and transportation providers that can work together to eliminate or mitigate the problems that passengers encounter during transfers from one transit/transportation

system to another. Currently, the only other transit providers in our region are Sharp Lines, operated by the Rolling Plains Management Corporation, and TAPS or the Texoma Area Paratransit System. Falls Ride interacts occasionally with both transit providers via the Downtown Travel Center, but there are no memorandums of agreement in place yet. Our local Council of Government, the North Texas Regional Planning Commission created a regional scheduling system known as NORTEX Route so that passengers can schedule trips, including transfers, between all three main transit providers. WFMPO shares in this vision of creating a public transportation system that stretches beyond the MPO's border and provides for a seamless public transportation experience within the Wichita Falls TxDOT nine-county region.

System Performance and Expansion

While TAPS continues to grow in the eastern section of the Wichita Falls TxDOT nine-county region and Sharp Lines maintains a steady presence to the west of Wichita Falls, our local system, Falls Ride, has already begun looking at ways to grow the local system. Specifically, Falls Ride will look at programmatic improvements that promote system connectivity and accessibility, close service gaps, and improve and/or expand transit service levels.

Falls Ride will continue its strategy to purchase two new 35-foot, 500,000 mile, 12-year transit buses every other year. During the off years, Falls Ride will continue to use capital funds to purchase shop equipment as needed. Falls Ride has successfully utilized Federal Transit Administration funds to reimburse the City of Wichita Falls for part of the construction costs for the Downtown Travel Center. Constructing the Downtown Travel Center was an important step in the evolution of Falls Ride. The next step in system expansion is to find a suitable location near the travel center to build a new bus maintenance facility. WFMPO staff will work with the Transit Administrator, the Director of Aviation, Traffic, and Transportation, and the City's Community Development Department to locate and secure a property, combination of properties, for construction of the facility.

In line with WFMPO's goals and targets listed in Section 2 of this update, MPO staff will work with the Falls Ride Transit Administrator to evaluate the coverage and efficiency of existing transit routes, and to examine areas of opportunity for expansion of existing, or creation of new, transit routes. MPO staff will also aid Falls Ride in prioritizing upcoming projects by bringing them before the Technical Advisory Committee (TAC) for prioritization, and ultimately before the Transportation Policy Committee (TPC) for approval. MPO staff will add new transit projects to the WFMPO Prioritized Project List for TAC committee board members to review, analyze, and score as part of the comprehensive prioritized project list for all projects located within the MPO's boundaries.

As part of WFMPO's Goal #5 listed in Section 2, MPO staff will work with Falls Ride staff to find alternative sources of funding to help build and expand the existing system. MPO staff will help the City of Wichita Falls create competitive grant applications for federal and state public transportation funds by supplying critical socioeconomic data, creating informative maps, researching the regulatory environment, and performing transit-planning analyses. MPO staff will help in the consideration of geographic equity in terms of project distribution that takes into account the various needs of the

citizens and stakeholders living inside the MPO's boundaries. WFMPO will work with Falls Ride to ensure the equitable distribution throughout the city of any new capital projects.

Transit Oriented Development

As of this writing, WFMPO has not yet received the consultant's final analysis and recommendations concerning our Transit Oriented Development study. We expect the consultant, Freese and Nichols, Inc. to present the completed document, with recommendations, to the Technical Advisory Committee (TAC) sometime in early January 2015. After the TAC has reviewed the document and made comments then the consultant will make any revisions, finalize the document, and present it to the Transportation Policy Committee (TPC, a.k.a. Policy Board), for their review, discussion, and approval. Ultimately, the Policy Board may recommend taking action on some or all of the findings in the report. Section Six of this update discusses some of the recommendations made by the consultant during the Technical Advisory Committee workshop held on November 13, 2014. Please see that section for a review of the findings and recommendations.

Walkable and Livable Community Activities and Strategies

One of WFMPO's main goals in Section 2 of this update of the long-range transportation plan is to create great places with vibrant economies. Our objectives range from building sustainable communities to creating interesting places where people will feel welcome and happy. Our specific targets to achieve these objectives include finding ways to attract key demographics wanting to live where housing, jobs, and entertainment are all easily accessible, affordable, and convenient. WFMPO wants to create place destinations, outdoor rooms, and other public spaces through the judicious application of place-making elements such as active building frontages, streetscapes, and protective enclosures. We support creating quality public spaces that are near cultural and civic amenities. We need to establish connections to nature that are accessible on foot. We should find ways to offer people alternative transportation choices so that they can reduce household automobile costs. We should encourage developers to build housing that connects to all of these amenities and promotes walkability and livability.

Generally, walkable communities cost less to live in than their drive-only counterparts, which are the outer suburbs. Walkable cities and towns hold the key to reducing rising housing and transportation costs. The American Automobile Association states that it costs $9,000 per year to own a car. This is a significant investment for most households because 48% of a family's budget goes towards housing and transportation. This is especially true for younger population groups. Our research discovered that young people living in densely populated areas want walkable urban places that are affordable and convenient. They are not as interested in suburban housing as previous generations. Not all Millennials want to live in central cities. Close-in suburbs with the right mix of walkable business districts not far

from pleasant streets of houses and apartments will also strongly attract this generation. With this age group, walkable, compact, mixed-use communities consistently come out ahead of conventional, drive-only places by a margin of 60/35 or 50/45, depending on how you phrase the question.

New Urbanism

The term New Urbanism has steadily gained in popularity over the past 25 years. New Urbanism is an urban design movement that promotes walkable neighborhoods containing a range of housing and job types. This design movement began in the United States in the early 1980s and gradually influenced many aspects of real estate development, urban planning, and municipal land-use strategies. New Urbanism improves property values, reduces traffic, and preserves the countryside in highly metropolitan areas of the country. The urban design practices that were prominent until the rise of the automobile prior to World War II strongly influence New Urbanism. They encompass principles such as traditional neighborhood design (TND) and transit-oriented development (TOD). In fact, these principles view the neighborhood as the fundamental building block of a region. New Urbanists support regional planning for open space, context-appropriate architecture and planning, and the balanced development of jobs and housing. Practitioners of New Urbanism have observed the following patterns when a community successfully implements New Urbanism design principles.

- The neighborhood has a discernible center. This is often a square or greenway. Occasionally, it might be a busy or memorable street corner. The center would contain a transit stop.
- Most of the dwellings are within a five-minute walk of the center, an average of roughly 0.25 miles (1,300 ft.; 0.40 km).
- There are a variety of dwelling types — usually houses, row houses, and apartments — so that younger and older people, singles and families, the poor and the wealthy may find places to live.
- At the edge of the neighborhood, there are shops and offices of sufficiently varied types to supply the weekly needs of a household.
- The design principles permit a small ancillary building or garage apartment within the backyard of each house that the owner may utilize as a rental unit or as a place to work (for example, an office, or craft workshop).
- An elementary school is close enough so that most children can walk from their home.
- There are small playgrounds accessible to every dwelling — no more than a tenth of a mile away.
- Streets within the neighborhood form a connected network, which disperses traffic by providing a variety of pedestrian and vehicular routes to any destination.

- The streets are relatively narrow and shaded by rows of trees. This slows traffic, creating an environment suitable for pedestrians and bicycles.
- Urban developers place buildings in the neighborhood center close to the street, creating a well-defined outdoor room.
- Parking lots and garage doors rarely front the street. The urban design plan relegates parking to the rear of buildings, which usually allows access through an ally.
- The community may reserve certain prominent sites at the termination of street vistas or in the neighborhood center for civic buildings. These provide sites for community meetings, education, and religious or cultural activities.

Smart Growth

New Urbanist principles are an integral part of Smart Growth legislation. Smart Growth is an urban planning and transportation theory that concentrates growth in compact, walkable urban centers to avoid sprawl. It also advocates compact, transit-oriented, walkable, bicycle-friendly land use, including neighborhood schools, complete streets, and mixed-use development with a range of housing choices. Smart Growth values long-range, regional considerations of sustainability over a short-term focus. Its sustainable development goals are to achieve a unique sense of community and place; expand the range of transportation, employment, and housing choices; equitably distribute the costs and benefits of development; preserve and enhance natural and cultural resources; and promote public health. Smart Growth offers increased productivity, better competition for labor, and improved retail sales. It also offers strategies that can help any town or city improve its finances along with tax revenue advantages that can yield ten times more per acre than conventional suburban development.

Smart Growth allows for the creation of quality public spaces, proximity to culture and civic amenities, the connection to nature that is accessible on foot, more transportation choices, the ability to reduce household automobile costs, and a more efficient way to build. It should advocate all the components of good place making and not just focus on economic development and transportation reform. Smart Growth should include land conservation; bringing reinvestment to forgotten neighborhoods in a just and equitable way; preservation and adaptation of historic and cultural resources; and enhancing environmental quality.

Good place making requires changes in zoning and building codes. Out of date codes do not recognize the things that provide comfort to people on foot or bicycle. On the other hand, form-based codes pay particular attention to the aspects of creating livability within the public realm. Most people love natural things because nature creates an intrinsic appeal to humans, which is why good places are sustainable only if they are also lovable. Incorporating nature into the design build process could become far more appealing and popular. Good neighborhoods act as little villages within a city. However, for these

neighborhoods to thrive they need cities to tuck little parks inside of them. Trees matter, especially in our region where we have had a continuous drought for many years. Trees are very important in the place making process because they, along with other streetscape elements, help shape the public realm into an outdoor room where people enjoy a sense of enclosure and protection.

Socioeconomic, Demographic, and Cultural Changes

Walkable places appeal to key demographic groups that have the power to leave communities economically destitute. The suburban American Dream of 60 years no longer rules. The emerging American Dream is urban. Younger generations have lost their loyalty and affection for the automobile-dependent suburbs. In fact, 48% of Americans want a house with a small yard or no yard at all. Overwhelmingly, they want a short commute (or no commute at all), and they want easy access to the things they need. Sixty percent favor a neighborhood with a mix of houses, stores, and other businesses within walking distance. Fifty-nine percent want public transportation within an easy walk of their home. Furthermore, they want to be able to choose between driving, walking, biking, and public transportation. They also want easy access to cultural venues and parks, preferably within walking distance.

Housing categories have changed as well. No longer are there "families with children" and "singles". Now, there are specific categories such as "well educated, employed single mothers" and "retired couples that want to live in a place that has the same community benefits as when they travel for leisure". City living is relatively affordable, which is why there has been such a cultural change over the last 60 years. Rural counties continue to lose population while some of the largest metropolitan areas in the country grew by 20 to 30 percent over the last decade. Urban revitalization improves affordability. Cities and suburbs need to invest in preserving and building more walkable, car-optional places because of this growing demand. In fact, if cities can recreate the culture to build places of synergy then they will have created places where the whole is greater than the sum of the parts.

Creating Walkable Places

Communicating an urban vision of prosperity can be difficult. It involves recycling, regenerating, and refilling the community. New Urbanism plans do not call for the redevelopment of historic properties. Instead, New Urbanism identifies vacant properties near downtown and opportunities for suburban retrofit. The most successful projects market the simple style and grace of a traditional urban lifestyle because the strongest driver towards walkable places remains the pursuit of happiness. Moreover, once they are complete, walkable places create a ton of value for the public and private sectors.

Researchers have determined that compact, walkable places generate much higher land values than conventional suburban development. In reality, upward mobility and high income correlate strongly with compact, walkable communities - largely in cities but also in suburbs. Researchers also discovered that residential properties near transit stations in five major cities maintained their values significantly better during the housing downturn than properties outside of transit sheds (defined as areas within a half mile of fixed guide way transit stations, including rail and bus rapid transit). In addition to upward mobility and higher income levels, parking also factors into the equation for creating compact, walkable communities. Strategic parking programs help support local businesses, create a more sustainable community, and improve the quality of life for residents. Parking is a valuable resource for promoting walkable communities.

In the early 1990's a new style of housing called Walkable Urban Places, or WalkUPs, hit the commercial real estate market. Walkable Urban Places in Washington DC and Atlanta captured a significant share of the commercial real estate market. From 1992 through 2014, WalkUPs moved from 24% of the market up to 48%. There are several advantages to building WalkUPs. First, they act as job magnets. In Atlanta, they average 36.5 jobs per acre, which is 45 times the regional average. Second, they attract knowledgeable workers and industries. Third, they are the most effective economic development strategy that a community, city, or region can pursue. Finally, they are significant in generating municipal tax revenues. Research shows that transit access acts as a catalyst for the construction of WalkUPs. Eighty-five percent of development in emerging WalkUPs went to places with rail transit.

Lean Urbanism

While New Urbanism takes a holistic view about the implementation of walkable, livable communities, there is a new term called Lean Urbanism that focuses more on smaller-scale, less expensive, incremental revitalization. There are several tools inside the Lean Urbanism toolbox to aid in the development of walkable, livable communities.

- Street standards that allow for complete streets
- Mixed-use site plans for vacant land
- Sprawl repair
- Infill development
- Buildings assembled to create a strong sense of place

Generally, there are four parts of implementation for Lean Urbanism:

- Get good developments going one block at a time. Success convinces people that it is the right thing to do
- Make connections between places
    - Complete streets

    - Multiuse trails
    - Corridors of green space and transportation
- Rules of the game must change
    - Form-based codes should replace Euclidean zoning
    - Work with your DOT to make informed infrastructure investments
- Integrate all of these ideas into the day-to-day operations of the city

These are but a few of the many strategies, programs, and activities that cities and transportation agencies can use to develop walkable, livable communities. WFMPO will continue to explore other plans, policies, and approaches to discover what works best for our area. Agency partnerships and working with the public are essential to realizing our goals for the future.