4 Unconstrained Needs Plan

4 Needs Plan (Unconstrained)

This chapter provides a description of the process used to develop a fiscally unconstrained plan for meeting the transportation needs of the community. Given the limited availability of funding to meet all of the needs identified in the Regional Needs chapter, both "build" and "no-build" strategies to address unmet needs are considered in the unconstrained plan. Applying fiscal constraints to the process and creating a financially constrained plan are described in Chapter 6.

No-Build Strategies to Address Unmet Needs

Building new roads and adding capacity to existing roadways not only come with high price tags, but these projects also often take years to go through the planning, design, and construction phases. Given the limited availability of funding for transportation projects and rising congestion levels, state, regional, and local agencies are increasingly relying on travel demand management (TDM), transportation system management and operations (TSM&O), and "Complete Streets" strategies to improve the performance of existing roadways. These strategies do not require the construction of new roadways or additional lanes of capacity, and therefore are often referred to as "no-build" strategies.

The following sections highlight the regional TDM, TSM&O, and Complete Streets efforts to date and provide recommendations for incorporating best practices into the transportation planning process. While OCOG is not directly responsible for implementing transportation projects, it works closely with local municipalities to explore and evaluate the appropriateness of these strategies for reducing congestion and improving the performance of the existing transportation system.

Travel Demand Management

Travel demand management (TDM) strategies seek to reduce congestion on existing roadways by reducing the overall number of cars using roads or by redistributing cars away from congested areas and peak periods of travel. Encouraging the use of alternative modes of transportation (such as transit, biking, or walking) and increasing the number of travelers in each vehicle are the primary ways in which TDM strategies reduce single-occupant vehicle demand on existing roadways. Put otherwise, travel demand can be managed by providing travelers with a wide range of choices for reaching their destination.

With fewer funds available to address congestion through new roadway capacity, TDM is a cost effective means to improve the transportation system. TDM strategies are designed to accomplish the following:

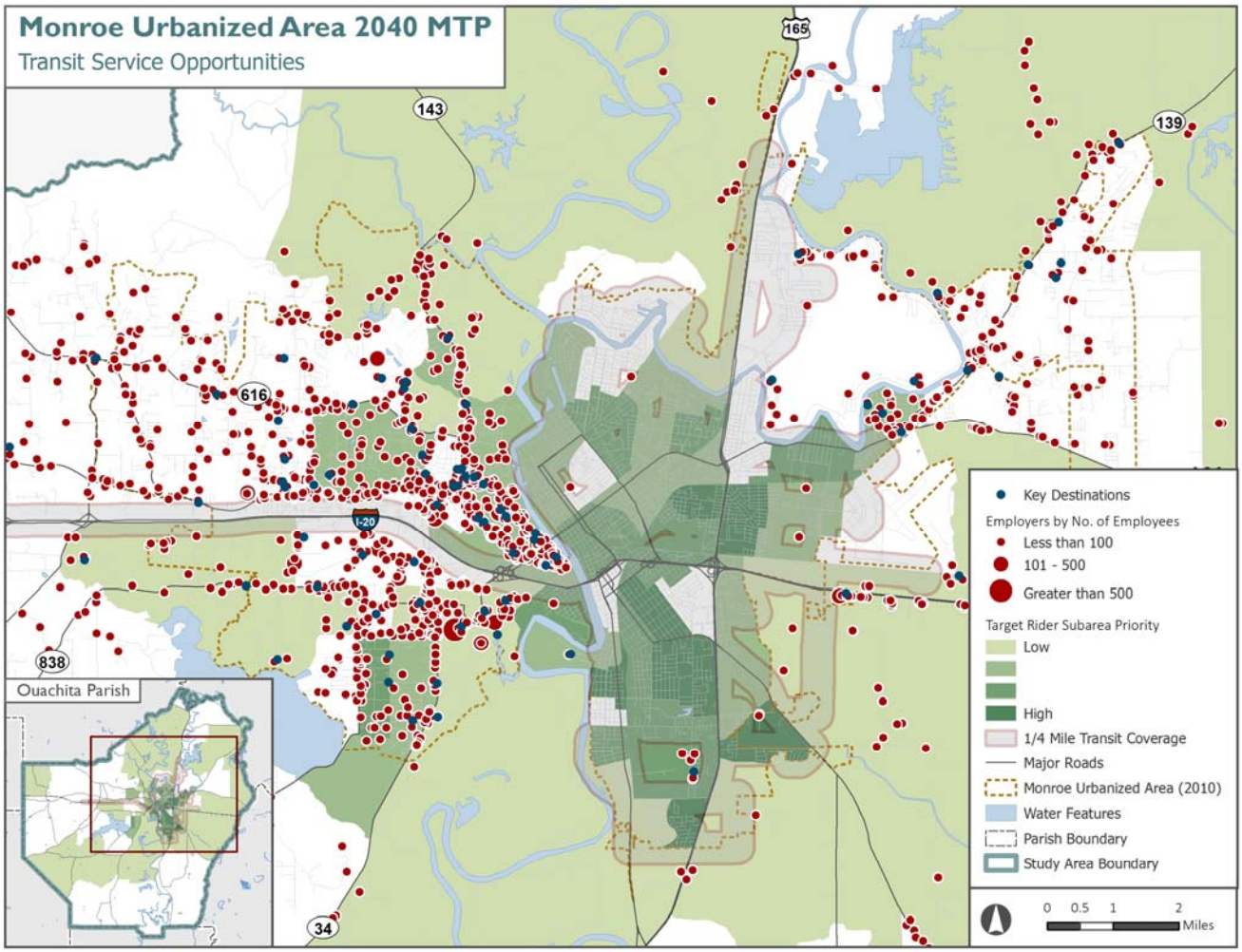
- **Improve mobility and accessibility** by expanding and enhancing the range and quality of available travel choices;
- **Reduce congestion and improve system reliability** by decreasing the number of vehicles using the roadway system and by redistributing demand away from peak periods and existing bottlenecks;
- **Increase safety** by addressing congestion, which is generally related to higher occurrences of traffic incidents; and
- **Improve air quality** by reducing the number of vehicle miles traveled, thereby saving energy, and by decreasing the number of short trips that are largely responsible for the proportion of emissions generated from cold starts.

Monroe Urbanized Area TDM Strategies

Transit Strategies

Overall, Monroe Transit does an exceptional job of reaching transit dependent populations, major employers, and key destinations in the City of Monroe. The best opportunities to expand transit service in the region are highlighted in Figure 4-1, which shows target transit rider subareas ranked by priority, as well as major employers and key destinations that fall outside of the current service coverage area.

Figure 4-1: Transit Service Opportunities



One possible route modification that could improve the region's transit service coverage would be an extension of Route 1 along Desiard Street into the community of Lakeshore. The block group in that area is a moderately high-priority target rider subarea – meaning that there are higher concentrations of disabled residents, households in poverty, households with no vehicle, or residents above or below the driving age. There are also a fair number of small employers (fewer than 100 employees) along and adjacent to Desiard Street in that area.

If fixed-route transit service expansion is considered at some point for West Monroe, there are two corridors that could be prioritized that would greatly enhance service coverage in the entire Monroe Urbanized Area:

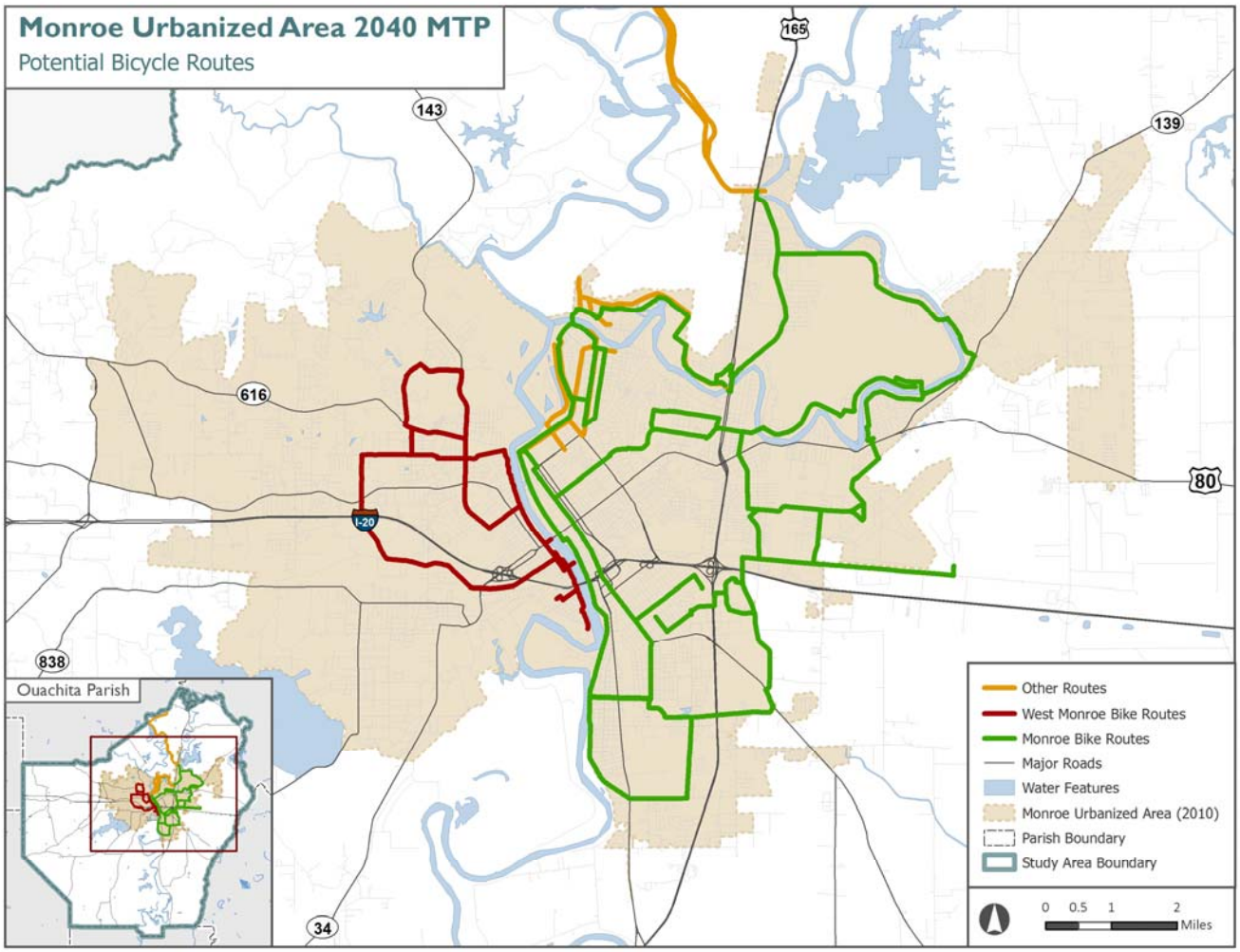
- **Corridor A:** Generally along Cypress Street from Downtown West Monroe, with a possible detour along McMillan Road to better serve Glenwood Regional Medical Center, and then following Well Road across I-20 to reach the West Monroe Expo Center. This corridor would serve a large number of major employers and key destinations in West Monroe.
- **Corridor B:** Generally south of Downtown West Monroe, following South 5th Street, Montgomery Avenue, and Jonesboro Road to reach the communities of Brownsville and Bawcomville. This corridor would serve two of the highest priority target transit rider subareas in the region, as well as serve the major packaging facilities along Jonesboro Road that are some of the largest regional employers not served by transit.

Bicycle and Pedestrian Strategies

As discussed in Chapter 3, an analysis of the bicycle and pedestrian network in the Monroe Urbanized Area suggests that conditions for non-motorized transportation are average to below-average. Consultation with local stakeholders concurred with the analysis, specifically calling attention to debris in streets providing a barrier to safe bicycling and poor sidewalk maintenance limiting the ability of elderly residents from safely reaching critical destinations, such as bus stops.

Discussions with stakeholders and regional transportation planning entities resulted in a preliminary list of strategies to address the bicycle and pedestrian network that would be appropriate for the Monroe Urbanized Area. This includes a preliminary recommendation for a bicycle route network, shown in Figure 4-2. It should be noted that this map represents possible bicycle routes in the region, and does not constitute a specific plan adopted by OCOG or any other transportation authority.

Figure 4-2: Possible Bicycle Path Network



Other recommended strategies to improve conditions for biking and walking in the Monroe Urbanized Area include:

- Expanding Safe Routes to Schools initiatives, including education programs;
- Hosting cycling skill and safety classes;
- Implementing public awareness campaigns (e.g. “Share the Road”, Bike to Work Day, etc.);
- Reviewing and updating local roadway design standards for appropriate bicycle accommodation;

- Incorporating AASHTO and NACTO standards into local design standards and providing typical cross sections;
- Educating local transportation planners and engineers on how to safely and efficiently accommodate bicycling and walking;
- Conducting a comprehensive regional Bicycle and Pedestrian Plan;
- Creating a regional bike map;
- Forming Bicycle and Pedestrian Advisory Committees to gather community input on active transportation issues;
- Educating and training law enforcement personnel in bicycle enforcement through recruit training and in-service refresher courses;
- Improving areas surrounding transit stops through better lighting, access, etc.; and
- Exploring Vision Zero policies for the region.

Best Practices

Although few TDM strategies are currently implemented in the Monroe Urbanized Area, there are best practices that have been successful in managing demand on transportation facilities in similar areas. As the regional transportation planning organization for the Monroe Urbanized Area, OCOG can work to educate its planning partners on available TDM strategies and associated benefits to encourage strong consideration of TDM strategies before investing in new construction projects.

Strategies to Increase Vehicle Occupancy

Carpool, vanpool, and school-pool programs encourage travelers with common destinations, particularly employment and school destinations, to share vehicles. These can be based on informal arrangements between individuals or formally arranged through ride-matching services. Available research indicates that improving awareness, trust, and willingness to ride with strangers, as well as flexibility in scheduling, may help to increase carpool use. Incentives are another effective tool for encouraging ride-sharing.

Strategies to Increase Travel by Transit, Bicycle, or Walking

In order to reduce the number of trips by private automobile, strategies to increase travel by transit, bicycle, or walking generally focus on the following objectives:

- Expand the service area of the transit system and connect infrastructure, which can reach more people and connect them to a greater number of destinations within the region;
- Improve the quality of the service, which increases the convenience, comfort, ease of access, and affordability of the mode and makes people more willing to choose it; and
- Educate the public on the availability of the various non-auto transportation options and services, and provide resources to help travelers navigate the region.

The following sections detail mode-specific strategies that could be considered for implementation in the Monroe Urbanized Area.

Transit Strategies

While traveling by car offers the ease and convenience of being able to “come and go as one pleases,” traveling by transit – particularly by bus – generally requires longer travel time and less flexibility in reaching one’s destination. Improving the quality of transit services involves strategies that shorten the overall travel times, increase traveler’s comfort both while waiting for the bus and when on-board, and provide added flexibility with travel time and destinations. While certain aspects of travel by bus will always be less convenient than travel by car, there are a number of improvements that can be made to significantly improve the quality of the experience.

Bicycle Strategies

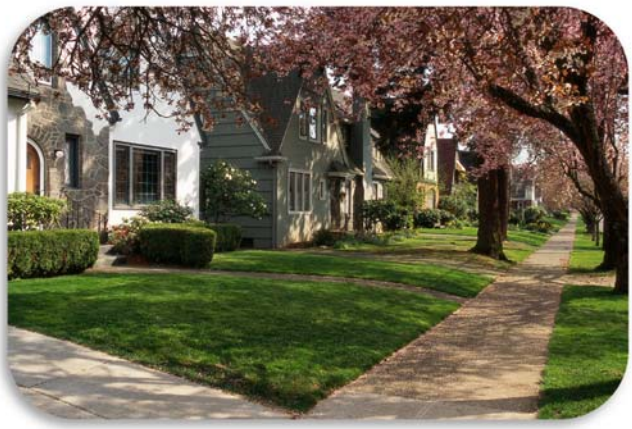
One of the primary concerns for cyclists (and those who may be considering biking as a form of basic, every-day transportation) is safety. Additional considerations include integration with other modes, continuity of the bicycle facility network, availability of bicycle parking or storage, and availability of other amenities such as on-site showers.

Pedestrian Strategies

Improving the quality of the pedestrian experience involves addressing both real and perceived safety concerns and upgrading pedestrian facilities to make sure they are contiguous and comfortable. Additionally, promoting development at a more “human scale” encourages pedestrian activity by

improving perceptions of safety and creating a visually interesting environment at street level. OCOG can continue to work with local jurisdictions to address safety concerns and ensure pedestrian facilities provide convenient and comfortable access to popular destinations. The following strategies are available to encourage walking as a viable form of every-day transportation:

- Provide buffers between sidewalks and automobile traffic;
- Enhance the visibility of crosswalks;
- Provide midblock pedestrian crossings; and
- Improve comfort of the walking public through street level amenities.



Employer-based Tools and Incentives

The commute to and from work is a significant contributor to traffic congestion along area roadways, particularly during peak travel times. TDM strategies that focus on employer-based tools and incentives can be an effective way to reduce travel by single occupant vehicles by coordinating ride-sharing among employees, encouraging the use of alternative modes for work trips, shifting work trips from peak hours, and reducing work travel times and the number of overall trips. The Monroe Urbanized Area has several large employment centers that generate significant travel on the area's roadways, and which make employer-based tools and incentives an attractive strategy for reducing demand on existing roadways in the Monroe Urbanized Area.

Employer-based TDM strategies fall into four separate categories:

- Encouraging employees to travel by **alternative modes**;
- **Shifting trips** from peak periods of travel and reducing the total number of trips;
- **Providing route information** to divert commuters from congested routes; and
- Using **location-specific solutions** to shorten the work commute and reduce the need for midday trips.

As the regional transportation planning entity, OCOG can actively work with area employers to reduce congestion by expanding the transportation options available to their employees. The MPO may wish to provide information via its website, or develop a "speaker series" for educating area employers regarding options available and their benefits to employers, employees, and the community as a whole.

Land Use Considerations

Typical development patterns have generally encouraged a separation of land uses. Additionally, there has been an overall trend toward less dense development, particularly in the planning and design of suburban neighborhoods. These land use factors significantly impact travel, requiring more trips to be made by automobile due to the increased distances between origins and destinations. OCOG can work with local planning partners to encourage land use policies that facilitate the use of alternative modes of transportation and reduce the number of automobile trips, such as promoting transit-supportive density levels and encouraging mixed-use developments in appropriate locations.

Traveler Information Systems

Traveler information systems use technology to detect, analyze, and disseminate traffic and transit conditions to travelers so that they may choose the best means for reaching their destination. Traditional traveler information systems such as radio and TV broadcasts are now being supplemented by websites, real-time roadside and transit displays, and e-mail and text message alerts.

OCOG can work with local jurisdictions to implement traveler information systems for both predictable settings, such as work zones, planned special events, tourism, and parking management, as well as unpredictable settings, such as a major highway

incident, inclement weather, or other unforeseen catastrophic events.

Source: Wikimedia Commons

Traveler information systems rely on traffic sensors, aerial surveillance, automatic transit location detection, incident detection, and weather monitoring by both the public and private sectors to inform travelers of delays, incidents, weather conditions, bus arrival times, travel times, emergency alerts, and alternate routes. In response, travelers may change their route, mode of travel, departure time, or destination.

Transportation System Maintenance and Operation

Transportation System Management and Operations (TSM&O) strategies seek to improve the performance of existing roadways through increased efficiency and throughput of vehicles on roadways. TSM&O strategies not only rely on traffic engineering solutions (such as signal synchronization and access management) to optimize the existing system but also rely on resource utilization, infrastructure, personnel, and data management strategies to extend the useful life of the existing transportation system and improve its reliability.

The following section provides a brief outline of the TSM&O strategies implemented in the Monroe Urbanized Area and lists additional strategies for consideration that can improve the performance of the existing transportation system.

Monroe Urbanized Area TSM&O Strategies

Local, regional, and state agencies and organizations were contacted regarding strategies that will be implemented in the Monroe Urbanized Area to address TSM&O. LADOTD is currently developing a statewide Transportation Management Plan that will incorporate several TSM&O strategies for the Monroe Urbanized Area. Monroe Transit anticipates implementing automated vehicle announcements (AVA) to compliment the automated vehicle locators it has recently deployed. AVAs will keep travelers aware of bus locations and important schedule and emergency information, therefore optimizing the transit experience and encouraging more residents to take transit instead of driving.

Best Practices

In addition to the TSM&O strategies implemented in the region, other strategies employed successfully in other cities serve as best practices for optimizing the performance of the existing transportation systems to reduce congestion and improve safety. OCOG can work to educate its planning partners on available TSM&O strategies and associated benefits to encourage strong consideration of TSM&O strategies before investing in new construction projects.

Maintenance

Infrastructure maintenance is a critical aspect of transportation operations and system management. Most infrastructure management agencies prefer to schedule routine repairs and inspections instead of embarking on ad-hoc patching and repairing. Schedule management for inspection and street repairs will enable city and county personnel to efficiently use limited resources. A calendar for repairs and reviews will also provide valuable information to concerned citizens.

Source: Wikimedia Commons

Regularly scheduled roadway resurfacing is necessary to provide uniform improvements to the existing roadways and to extend their useful life. Older roads, especially those built according to discontinued standards, should be reviewed with an eye towards upgrading deficient sections to modern criteria.

Overlays and patches should be carefully constructed to help prevent uneven transitions and excessive wearing, particularly near new or existing grates and inlets. In locations with bicycle lanes (or anticipated bicycle usage), bicycle compatible grates should be installed to avoid accidents and pinched tires.

Traffic Signal and Intersection Improvements

Roadway users encounter traffic control signage and intersection signals on nearly every route they travel. While the primary function of intersection traffic control is to improve safety at intersections, it is also often a significant source of delay. Improper signage and poor signal timing results in unnecessarily long queues and impacts the reliability of the transportation system. Improving signage, signal timing, and equipment is a very cost-effective way to facilitate traffic flow along a corridor. The MPO can work with its planning partners to identify corridors which would benefit from traffic signal improvements and to prioritize projects.

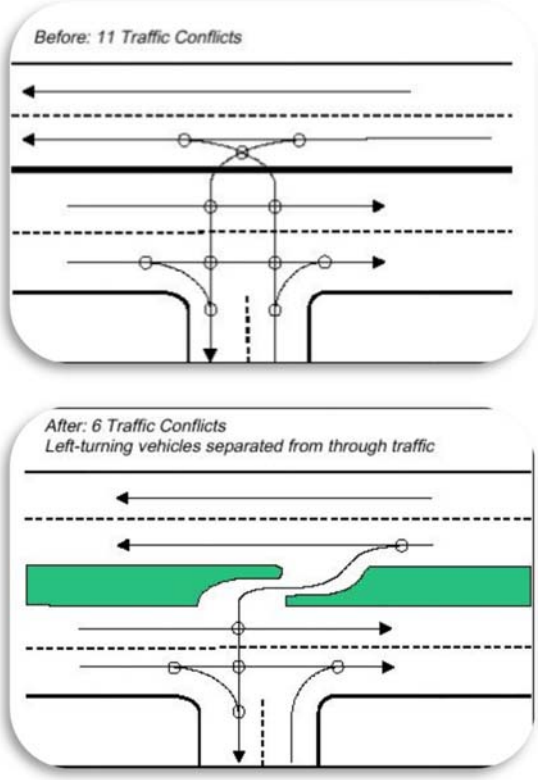
Access Management

Access management refers to the regulation of the number of access points between a development and the adjacent roadway network. Most discussions of access management involve the placement and number of driveway curb cuts, although the application can also include the location, size, and function of interior service roads.

Effective access management has significant implications for mobility, accessibility, and safety by reducing crashes, increasing capacity, reducing travel time and delay, extending the life of the roadway, and reducing vehicular emissions. The MPO can work with local jurisdictions to identify roadways with congestion and/or safety issues that may be effectively addressed using one of the following access management strategies:

Medians

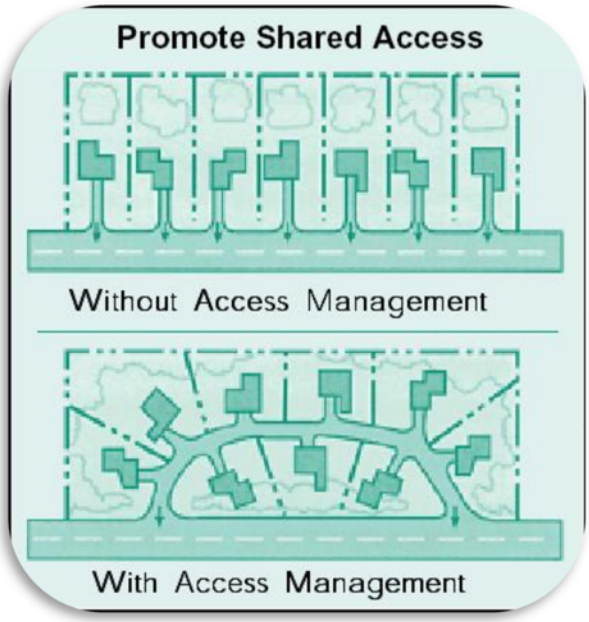
Raised medians on collector and arterial roadways decrease the potential for accidents by restricting turning movements. Although land access is thereby limited, raised medians provide a refuge area for pedestrians or turning vehicles and reduce mid-block accidents. Medians can also be used as part of an overall corridor access management strategy to reduce vehicle conflicts, increase capacity, and reduce accidents at intersections.



Driveway Spacing

When too many access points are allowed, especially near an intersection, conflicting vehicle movements result. In the interest of providing safe and reasonable access to a site, planners and engineers should review the impacts of a development with respect to the entire corridor, not just the site itself.

Wherever possible, cooperation and consultation between adjacent landowners is encouraged to avoid conflicting designs. Limiting the number of access points per parcel and enforcing minimum lot frontages encourage proper driveway spacing along busy roads.



Internal Site Circulation

Most access management strategies are limited to the roadway right-of-way, but movement of traffic into and out of properties can be dramatically affected by the design of on-site circulation. Typical designs for internal circulation are concerned with the orientation of the buildings, the parking areas, and the highway access points. The optimal internal circulation design approach includes:

- Providing safe and reasonable access to and from the street to motorists, bicyclists, and pedestrians, and
- Providing a reasonable transition between the access and the internal circulation, especially by ensuring that driveways are wide and long enough. [1]

Traffic Calming

Because there are many instances where the number of aggressive drivers is greater than human resources can address, many cities and counties have implemented various "self-enforcing" speed and volume control devices. The majority of these measures are referred to as "traffic calming." These physical devices can assist law enforcement in influencing driver behavior.

Traffic calming is often controversial and can be challenging to discuss. Most traffic calming measures are applied to residential streets, though certain measures can be applied to higher volume roadways as well. Broadly defined, the goals of traffic calming measures are:

- To slow down the average vehicle speeds for a particular roadway,
- To address excessive volumes for a particular roadway, and
- To remind drivers of or reinforce the residential nature of specific roadways.

Traffic calming measures are designed to slow down or impact all vehicles. In practice, this can lead to reduced access and response times for emergency and law enforcement personnel. Careful consideration must be given to any proposed traffic calming device, especially if the roadway under review provides critical access for emergency personnel. Representatives of fire, police, and emergency services departments should be involved in the review of proposed traffic calming devices. OCOG can work with its planning partners and emergency response agencies to identify locations suitable for traffic calming implementation.

[1] Center for Transportation Research and Education at Iowa State University (n.d.). *Access Management Toolkit*. Available: http://www.ctre.iastate.edu/research/access/toolkit/23.pdf.

Traffic Incident Management

Traffic Incident Management (TIM) consists of a planned and coordinated process to detect, respond to, and quickly clear traffic incidents so that traffic flow may be restored as safely and quickly as possible. Effective TIM strategies reduce the duration and impacts of traffic incidents and improve the safety of motorists, crash victims, and emergency responders. Traffic incident management involves coordination among a number of public and private sector partners, including:

- Law enforcement;
- Fire and rescue;
- EMS;
- Transportation departments;
- Public safety communications;
- Emergency management and preparedness;
- Towing and recovery;
- Hazardous materials contractors; and
- Traffic information media.

The MPO can facilitate coordination among the various TIM stakeholders.

Traffic Data Collection

As transportation technology grows increasingly sophisticated, obtaining the amount of data required by new traffic optimization interfaces presents significant challenges to cash-strapped public agencies. Automated traffic data collection creates an opportunity for transportation management agencies to receive a continuous supply of traffic data at a low cost. Because automated traffic data collection gathers data in real-time, it facilitates many of the demand-responsive TSM&O strategies discussed earlier in this chapter (such as traffic signal optimization). New types of traffic data collection, such as Bluetooth and Wi-Fi detectors, are particularly appealing due to their lower operational and maintenance costs compared to in-road loop detectors. These types of detectors have the added benefit of being able to gather traveler information beyond the traditional scope of the private vehicle to include bicycle and pedestrian roadway users.

Complete Streets

The concept of “Complete Streets” is rooted in the idea that roads should be built with all users in mind, not just the private automobile. While Complete Streets principles include many TDM and TSM&O strategies, the concept focuses less on improving traffic conditions and more on the livability of places. Complete Streets strategies address the needs of all users of the transportation system, including the young and the old, the disabled, and users of transit or non-motorized forms of transportation. They yield a wide range of benefits such as improved safety, equity and access, economic development, air quality, health, and livability. While policies adopted by local governments represent the majority of Complete Streets policies adopted nationwide, MPOs can be integral partners in promoting and implementing Complete Streets strategies. The following section discusses some of the common features of Complete Streets, their benefits, state- and local-level policies for implementation, and recommendations for how the MPO can encourage local governments to adopt a Complete Streets approach.

Common Features of Complete Streets

Complete Streets incorporate physical improvements that enhance the reliability, safety, and convenience of all modes of transportation, so users can select the best way to reach their destination based on their needs – whether by car, transit, bicycle, or foot. Physical improvements range from providing specific facilities such as bike lanes, to incorporating features intended to slow the speed of automobile traffic to improve safety. There are a wide range of design elements that planners and engineers should consider when implementing a Complete Street. The final design, however, will depend both on the needs of the end users and the context of the street.

Pedestrian Features

Some of the features of Complete Streets that enhance the environment for pedestrians and encourage walking include:

- **Sidewalks and buffers.** Sidewalks should be provided on both sides of the street, should be as wide as possible, and should ideally be buffered from automobile traffic through a method such as planting strips or on-street parking.

- **High-visibility crosswalks.** Strategies to heighten the visibility of crosswalks include pedestrian hybrid beacons, flashing pedestrian lights, pedestrian crossing signage, in-road crosswalk lighting systems, and varying paving materials.
- **Bulb-outs, pedestrian refuge island, and medians.** Whenever possible, the crossing distance of the roadway should be decreased or a mid-crossing pedestrian refuge provided (especially on wide roads).
- **Street trees and lighting.** These amenities enhance safety and comfort for pedestrians during the day (through shade) and at night (through lighting).
- **Americans with Disabilities Act (ADA) compliant curb ramps.** Providing ADA-compliant ramps at intersections ensures that the street is accessible to individuals with a wide range of physical capabilities. This is a legal requirement for all new and reconstructed streets.

Bicycle Features

There are many design improvements that enhance safety for cyclists by increasing visibility or providing separate facilities. These can include:

- **Shared lanes ("sharrows").** Sharrows use pavement markings to remind motorists that bicyclists are permitted to use the full lane.
- **Dedicated bike lanes.** Lanes of traffic exclusively for cyclists are usually delineated with a single or double white line and are sometimes painted a solid color (most commonly green) to further differentiate the road space allocated to bikes. There are several methods for changing the pavement markings at points where vehicles may need to cross the bike lane.
- **Protected bike lanes and cycle tracks.** These are the most advanced type of on-road bike facility. These dedicated lanes are separated from traffic with some sort of barrier (typically either parked cars or flexible plastic bollards).
- **Bicycle signals.** On some streets with dedicated or protected bike lanes, a traffic signal with a cycle exclusively for bicyclists may be provided to improve safety.

Additionally, the use of **wide shoulders** to provide safe accommodation of cyclists may be considered a Complete Streets approach in rural areas, where vehicular traffic volumes are lower and opportunities for conflict are fewer.

Transit Features

The provision of transit features on complete streets should be supplemented with the provision of high-quality pedestrian and bicycling infrastructure, as non-motorized access to transit increases the overall quality of the service. Once pedestrian and bicycle infrastructure is in place, additional strategies to accommodate and enhance transit include:

- **Transit stop amenities.** The quality of transit stops can be greatly improved with amenities such as shelters, lighting, benches, and trash cans. Maps and schedules, real-time transit monitoring, and Wi-Fi can further enhance the experience of those waiting for transit.
- **Dedicated bus lanes.** In places where transit use is high and traffic congestion presents obstacles to maintaining on-time performance, dedicated bus lanes can offer significant reliability improvements and travel-time savings,

and can increase the overall person-throughput of congested stretches of roads.

- **Queue-jump lanes.** In places where demand may not justify or space may not be available for dedicated bus lanes, queue-jump lanes can allow buses to bypass traffic at a stoplight to improve travel time.
- **Signal prioritization.** Optimization of traffic signal cycles, either through active detection and adjustment or through pre-determined signal synchronization, can help improve reliability along highly used transit corridors.

Traffic Calming

In addition to providing more options for people to walk, bike, or take transit, Complete Streets strategies often incorporate features to slow vehicle speeds where appropriate. Traffic calming techniques are frequently implemented near crosswalks or in residential areas. The traffic calming methods discussed earlier in this chapter are all common strategies to ensure that vehicle speeds are context appropriate.

Monroe Urbanized Area Complete Streets Policies

As mentioned in Chapter 2, LADOTD adopted a Complete Streets Policy in 2010 that applies to any projects that utilize state or federal funding or approval. The policy directs DOTD to "consider the impact that improvements will have on safety for all users" of the transportation system, and to "strive to ensure projects do not become barriers to pedestrians, bicyclists, and transit users."

The City of Monroe's 2013 Comprehensive Plan recommends consideration of a Complete Streets approach to transportation planning in the city, but does not advocate a specific Complete Streets policy.

No-Build Recommendations

The following no-build recommendations are listed in no particular order:

- Encourage continued coordination of the metropolitan transportation planning process with the development of local transportation and comprehensive plans to promote the inclusion of facilities and systems related to transit, biking, and walking.
- Encourage transportation planning partners to consider cost-effective, no-build strategies, such as TDM, TSM&O, and Complete Streets design prior to investing in roadway capacity improvements.
- Work with large area employers to explore and implement employer-based TDM tools and incentives.
- Consider giving funding preference to projects that incorporate TDM and TSM&O strategies, reflect Complete Streets design principles, or set regional multi-modal transportation goals and objectives through a robust public involvement process.

Safety and Security

Moving Ahead for Progress in the 21st Century (MAP-21) requires that the transportation planning process address both the safety and security of the transportation system for motorized and non-motorized users. Federal guidelines define safety as "freedom from unintentional harm," and define security as "freedom from intentional harm."

Strategies to address safety and security will at times differ significantly from one another and require coordination between different agencies but will more often overlap and involve members of the same agencies. Therefore, the 2040 MTP considers safety and security both simultaneously and individually.

OCOG is responsible for addressing safety and security through the programming of transportation improvements. The MPO's role in implementing specific safety and security measures may be more limited, but its role in coordinating regional transportation needs between the various local, state, and federal transportation agencies is vital to creating successful safety and security policies. By integrating the safety and security goals and objectives of regional stakeholders into the transportation planning process, the MPO can ensure that its plans and studies are consistent with and help support safety and security planning in the Monroe Urbanized Area.

The following sections discuss the various agencies involved in safety and security planning in the Monroe Urbanized Area and present local, regional, and state plans and programs that are currently in place.

Safety

"Safety" in the transportation planning context typically refers to the mitigation of traffic crashes, transit accidents, and other unintentional events resulting in fatalities, injuries, or loss of property on the transportation network. MAP-21 identifies a national goal for safety to significantly reduce fatalities and injuries on all public roadways. The U.S. Department of Transportation (USDOT) published a related Notice of Proposed Rulemaking (NPRM) in March 2014 proposing that safety targets and progress towards their achievement be measured as 5-year rolling averages for fatalities and serious injuries, as well as their respective rates for every 100 million vehicle miles traveled (VMT).

Safety planning, reducing the number of crashes, and decreasing the amount of fatalities and injuries on the transportation network involves several different projects and programs, ranging from improving the operational efficiency of the transportation network to influencing driver behavior. LADOTD and OCOG play the lead roles in transportation safety planning, but several non-traditional stakeholders should be included in the transportation safety planning process, including:

- State agencies responsible for safety data collection and management (LADOTD, Louisiana Highway Safety Commission);
- First responders, fire and rescue, and EMS;
- State and local law enforcement;
- Transit agencies;
- Motor vehicle departments;
- Federal agencies; and
- The non-governmental highway safety community (i.e. AAA).

Highway Safety Improvement Program (HSIP)

The HSIP is a Federal-aid funding program administered by state DOTs. Its goal is to achieve a significant reduction in traffic fatalities and serious injuries on all public roads, including non-State-owned public roads and roads on tribal lands. The program must be consistent with the Louisiana SHSP, and report annually on the following:

- HSIP program structure;
- Progress towards implanting HSIP-funded projects;
- Progress made in achieving safety performance targets; and
- Assessment of the effectiveness of implemented improvements.

LADOTD selects projects for implementation through HSIP following a data-driven approach that identifies safety problems in a systemic manner, identifies countermeasures to address them, and prioritizes projects based on the goals and objectives outlined in the SHSP. Louisiana has set an aggressive goal of reducing highway fatalities to zero, and has used LADOTD's crash database to focus HSIP funds to projects in crash-prone areas.

Recommendations

Under MAP-21, states and MPOs are required to adopt a performance- and outcome-based approach to transportation planning that relies heavily on existing and projected data to evaluate the effectiveness of strategies in addressing goals and objectives, including those related to safety. The crash analysis provided in Chapter 3 provides a basis

for the safety planning element and the following recommendations will help the MPO comply with final safety performance management requirements:

- Identify measurable safety goals and objectives;
- Transition to a more data-driven, strategic approach to safety planning;
- Collaborate with key safety stakeholders;
- Coordinate closely with the State in the development, evaluation, and reporting of performance targets that support the statewide safety goals and objectives, as well as regional and local safety goals; and
- Provide training opportunities for MPO staff to increase their knowledge related to transportation safety planning.

Specific Crash Reduction Recommendations

As identified in the crash analysis in Chapter 3, the four most common types of collisions that occur in the Monroe Urbanized Area are:

- Rear end collisions
- Right angle collisions
- Non-collisions with motor vehicles (NCWMV)
- Side swipe same direction

This section briefly outlines safety improvements that can be made to area roadways to reduce each type of collision. Refer to Appendix C for a more thorough list of recommendations to address specific crash types observed in the Monroe Urbanized Area.

Rear End Collisions

Rear end collisions are the most frequently observed crash type in the Monroe Urbanized Area. Rear end crash frequency may be reduced by adjusting the yellow clearance intervals in compliance with the Institute of Transportation Engineers (ITE) recommended clearance interval practices. The number of crashes may further be reduced by reconfiguring the travel and turning lanes. This can be accomplished in a variety of methods including converting the two-way frontage roads to one-way frontage roads, providing exclusive right-turn lanes, providing advanced warning signs, providing indirect left-turns, or by displacing left-turn movements.

Right Angle Collisions

Right angle collisions are the second most prevalent collision type in the study area between 2011 and 2013. They can be caused by a number of factors, including restricted sight distance, excessive speed, inadequate roadway lighting, poor visibility of a traffic signal, inadequate signal timing, inadequate advance warning signs, running a red light, and large traffic volumes. Each of these factors should be considered when designing projects to reduce right angle collisions.

Non-collision with Motor Vehicles (NCWMV)

NCWMV crashes are the third most prevalent crash type in the study area. A number of factors could be the cause for NCWMV crashes, including speeding, pavement surface conditions, lighting and markings, roadway geometry, and signal timing.

Other Collision Types

Within the study area, there are a number of other collision types that are prevalent, including left turn-angle, left turn-opposite, left turn-same, right turn-same, right turn-opposite, sideswipe-same, and sideswipe-opposite. Recommendations for reducing these types of collisions can be found in Appendix C.

Security

Planning for transportation security seeks to mitigate or avoid harm to the transportation network inflicted either intentionally by people (such as terrorist acts or criminal activities), or circumstantially through natural disasters such as hurricanes, earthquakes, or other weather events. Security planning is carried out by multiple levels of government and involves all four phases of emergency management: preparedness, response, recovery, and mitigation.

In support of state, regional, and local security goals and objectives, the primary role of the MPO is to facilitate coordination between agencies responsible for transportation security, including law enforcement, emergency response, transit agencies, and homeland security departments.

Review of Agencies and Programs

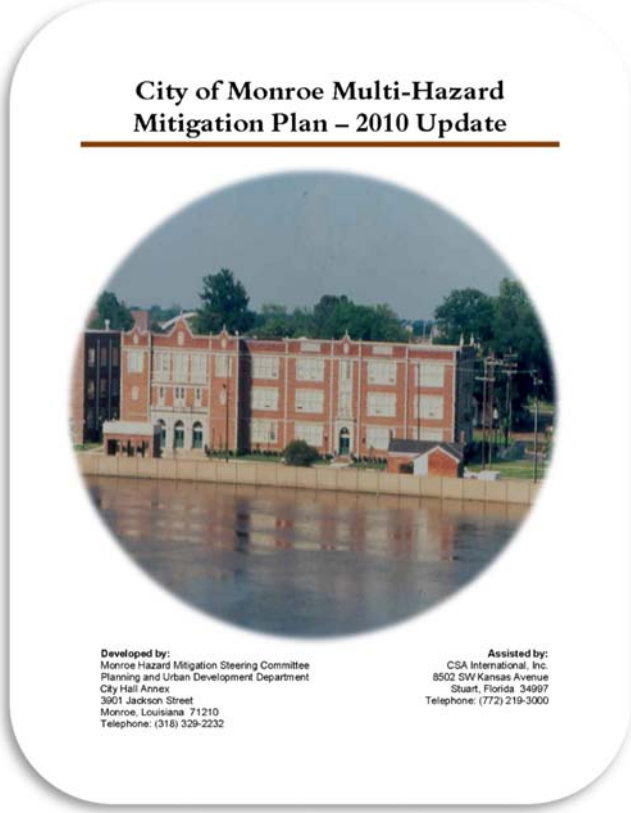
Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP)

Established in 1990, the Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP) is the agency responsible for disaster planning and preparation for the state of Louisiana. GOHSEP prepares a variety of plans that apply to the Monroe Urbanized Area, including a Statewide Hazard Mitigation Plan (last updated in 2014), as well as emergency operations plans for specific threats.

Ouachita Parish OHSEP

As required by state statute, each Parish – including Ouachita Parish – is required to form a Parish Emergency Management Advisory Committee to advise the parish on emergency preparedness planning. Ouachita Parish maintains its own Office of Homeland Security and Emergency Preparedness (OHSEP). The Ouachita Parish OHSEP's mission statement is:

- To develop and deliver disaster plans & programs to protect life and property.



- To mobilize, direct, coordinate and utilize resources.
- To coordinate and direct recovery and restoration operations.
- To assist government, volunteers, business, industry, education, medical and other units with their emergency plans & programs.
- To coordinate emergency services to mitigate, prepare, respond and recover from disasters.
- To coordinate local, state, and federal plans, programs, warnings, communications and public information within the emergency operations center in case of a disaster.

Local Hazard Mitigation Plans

As discussed in Chapter 2, both the City of Monroe and the University of Louisiana Monroe have recently completed FEMA-approved Hazard Mitigation Plans. These plans provide a thorough analysis of natural and technological hazards that both entities could be subject to. The plans identified twenty-five projects as priorities for hazard mitigation, including an evacuation study and airport canal erosion control project.

Recommendations

The following recommendations, shown in no particular order, are designed to strengthen transportation security planning in the Monroe Urbanized Area and should be coupled with elements of the final rules as published by the FHWA and disseminated by LADOTD:

- Create a local definition of security;
- Continue to assess the most significant threats, high-potential targets, and least hardened infrastructure elements within the Monroe Urbanized Area;
- Work with federal, state, regional, and local jurisdictions and transportation providers to develop evacuation plans for the "transportation disadvantaged;"
- Establish a Continuity of Operations Plan (COOP) for the entire Monroe Urbanized Area;
- When eligible, establish a FEMA-approved Hazard Mitigation Plan for Ouachita Parish;
- Collaborate with security and emergency response professionals and organizations on an ongoing basis; and
- Provide training opportunities for MPO staff to increase their knowledge related to transportation security planning.

Build Strategies to Address Unmet Needs

This section builds upon the work completed as part of the needs analyses discussed in Chapter 3, to identify deficiencies in the Monroe Urbanized Area's transportation network. This section outlines the steps taken to address or mitigate the deficiencies identified by developing an unconstrained list of possible improvements to the transportation network, and then developing a project prioritization process and ranking those improvements according to community values.

Project Identification

Once the no-build strategies were considered, potential projects to expand or build new facilities were examined. The results of technical reviews, available planning studies, highway and corridor studies, consultation with local traffic engineers, planners, and other stakeholders, and a call for transportation projects were all combined to develop a list of candidate projects slated for further analysis.

Project Prioritization

The project prioritization process used a project scoring tool which combined input gathered from the public during the visioning process, outputs from the deficiencies analysis (volume to capacity (V/C) ratios), and the expertise of Technical Committee members to assess the community benefits of proposed transportation projects.

The process resulted in a prioritized list of short-, mid-, and long-term transportation improvements planned for implementation. Based on this multi-faceted process, the listing of transportation projects is not only reflective of the community's vision, responsive to mobility needs, and technically sound, but it also complies with federal requirements for metropolitan transportation planning.

Planning Factors and Project Criteria

MAP-21 requires the transportation planning process for metropolitan areas to consider strategies and projects that address eight planning factors:

- Support the **economic vitality** of the metropolitan area, especially by enabling global competitiveness;
- Increase the **safety** of the transportation system for motorized and non-motorized users;
- Increase **security** of the transportation system for motorized and non-motorized users;
- Increase **accessibility and mobility** of people and freight;
- Protect and enhance the **environment**, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
- Enhance the **integration and connectivity** of the transportation system, across and between modes, for people and freight;
- Promote **efficient system** management and operation; and
- Emphasize the **preservation** of the existing transportation system.

Based on these planning factors, a set of project evaluation criteria was developed to ensure each aspect of the factors was taken into consideration in assessing the merits of the proposed projects. The criteria are:

- **Improves safety** – protects against unintentional harm (e.g. traffic collisions)
- **Protects the environment** – reduces air and noise pollution, protects critical habitats, avoids developing in flood-prone areas, protects historical and cultural resources, etc.
- **Promotes efficiency** – maximizes the potential of the existing transportation system (e.g. improved signal timing, limiting the number of driveways on certain roads, preserving the existing system through overlays, etc.)
- **Supports land use goals** – coordinates plans for the transportation system with plans for land development
- **Increases street connections** – improves circulation within the community and to external destinations by connecting roads to provide multiple options for reaching destinations
- **Conserves energy** – reduces the use of natural resources
- **Improves access** – balances access to land uses with the efficient flow of traffic
- **Improves security** – protects against intentional or harm (e.g. security threats)
- **Reduces congestion** – minimizes the time spent in traffic congestion
- **Supports economic development goals** – improves or builds transportation infrastructure that increases access to markets, attracts employers, makes businesses more accessible, etc.
- **Connect modes of travel** – improves the ease with which people can use multiple modes of travel to reach destinations (e.g. ride a bike to a bus stop)
- **Increases multi-modal options** – provides travelers with more options for reaching their destinations, such as biking, walking, riding the bus, or driving a car
- **Improves quality of life** – ensures the transportation system has a positive impact on the community's standard of living (e.g. safe routes to schools, recreation, etc.)
- **Preserves right-of-way** – plans ahead for the future expansion of the transportation system and guarantees land will be available before development occurs to reduce future costs

Visioning Workshop Rankings of Evaluation Criteria

During the visioning process the public was asked to rank the criteria based on their personal preferences.

The results were combined to assign a final ranking of the evaluation criteria based on community values. The following table presents the final criteria ranking and the resulting weighting value used to compute the final project prioritization list:

Criteria	Final Rank	Weight
Improve Safety	1 (Tied)	2.0
Reduce Congestion	1 (Tied)	2.0
Promote Efficiency	3	1.8
Improve Quality of Life	4	1.7
Support Economic Goals	5	1.6
Increase Connections	6	1.5
Improve Access	7 (Tied)	1.4
Connect Modes of Travel	7 (Tied)	1.4
Preserve Right-of-Ways	9	1.2
Conserve Energy	10 (Tied)	1.1
Increase Multi-modal Options	10 (Tied)	1.1
Protect Environment	12 (Tied)	0.9
Support Land Use Goals	12 (Tied)	0.9
Improve Security	14	0.7

Project Scoring

The project scoring process combined the results of the deficiencies analysis with the weighted evaluation criteria to arrive at a final list of prioritized projects that resulted from both qualitative and quantitative evaluation metrics.

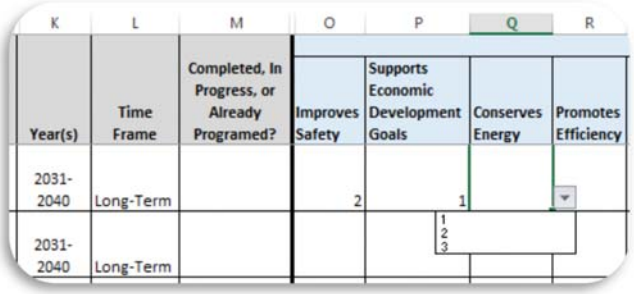
Travel Demand Model Scoring

Each project was assigned a "reduces congestion" criterion score based on the project's location in relation to roadways that have a high V/C ratio according to the roadway deficiencies analysis results.

Technical Committee Project Scoring

Each member of the Technical Committee was asked to score each project based on how well it aligns with, or contributes to, achieving the community's transportation vision. Members assigned one, two, or three points per criterion for every project based on the degree to which they felt the project addressed the criteria.

- Projects with a high direct correlation to the criterion were assigned three points;
- Projects with medium influence on the criterion were assigned two points; and
- Projects with minimal to no impact on the criterion were assigned one point.



For example, if a project was thought to have a significant impact on safety, the project would be assigned three points for the "Improves Safety" criterion. If the project did nothing to increase multi-modal options, it would be assigned one point for that criterion. Short-, mid-, and long-term projects were scored at the same time and then separated into separate, ranked lists.

Committee members were able to use their technical expertise and local knowledge to adjust the criteria weights to best meet regional transportation goals and needs.

Policy Committee Adoption of Prioritized Project List

Once the Technical Committee completed their portion of the scoring process, the final scores and list of prioritized projects were sent to the Policy Committee for approval. The Policy Committee was then able to accept or reject the list. The Policy Committee approved the prioritized list at their October 26, 2015 meeting. If they had rejected it, the projects would have been re-scored by the Technical Committee and the final rankings would be updated to reflect the new scores. The final list of prioritized projects is presented in Chapter 7 of this document.