OTHER SAFETY RELATED ACTION PLANS

2015 City of Albuquerque Bikeways & Trails Facilities Plan

Recommendations include improvements in order to complete the multi-modal system within the study limits. These projects currently have funding in place through the TIP and have a high likelihood of completion within the next 5 to 10 years.

Current High Priority Projects:

- Bike lanes on Rio Bravo Boulevard from west of Empresa Drive to the 1-25 Frontage Road
- Bike trails along Sunport Boulevard from University Boulevard to Transport Street

These are projects that will help to close gaps in the existing multimodal network. They were identified based on input from the City, stakeholders, and the public as projects that would bring the highest value and could possibly be constructed within the next 15 years with current funding rates.

High-Priority Critical Links Projects:

- Bike route on Lead Avenue from Alcalde Place to 8th Street
- Bike lane on Lead Avenue from 8th Street to 2nd Street (on-going in 2017)
- Bike route on Coal Avenue from Alcalde Place to 8th Street
- Bike lane on Coal Avenue from 8th Street to 2nd Street (on-going in 2017)
- Bike lanes on 8th Street from Bridge Boulevard to Central Avenue (Note: the bike lanes have now been constructed between Bridge Boulevard and Coal Avenue)
- Bike lanes on 2nd Street from the Lagunitas Ditch to Marquette Avenue
- Bike lanes on Broadway Boulevard from Coal Avenue to Indian School Road
- Bike lanes on Avenida Cesar Chavez from Edith Boulevard to Yale
- Bike lanes on Gibson Boulevard from Broadway to 1-25
- Pedestrian-bicyclist overpass or underpass at Broadway/Rio Bravo, Broadway/South Diversion Channel, Sunport/South Diversion Channel, Gibson/1-25, and Avenida Cesar Chavez/1-25

These projects will complete the multimodal system in this study area, but at the current rate of funding may not all be fully constructed for 50 years.

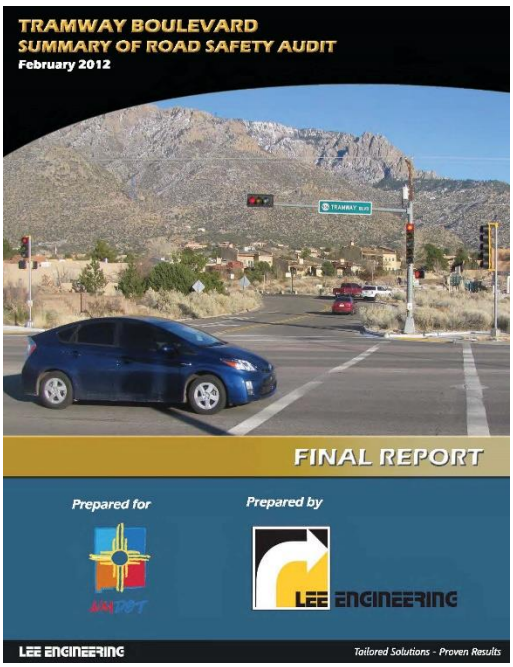
Full Build-out Projects:

- Bike lanes on 5th Street from Coal Avenue to Indian School Road
- Bike lanes on 3rd Street from Avenida Cesar Chavez to Coal Avenue
- Bike route on Iron Avenue from 7th Street to 4th Street
- Bike route on Atlantic Avenue from 10th Street to 2nd Street
- Bike route on the future reconstructed Woodward Road between 2nct Street and Broadway (the current Woodward Road plan has bike lanes in this area is in the TIP)
- Bike lanes on the future reconstructed Woodward Road between Broadway and Arno Street (the current Woodward Road plan has bike lanes in this area is in the TIP)

- Bike lanes on Broadway Boulevard from Stock Drive to Gibson Boulevard
- Bike lanes on Broadway Boulevard from south city limits to Desert Road
- Multi-use trail along the South Diversion Channel from Rio Bravo to Gibson

Tramway RSA

Road Safety Audits (RSA) are typically used by road agencies to identify and mitigate safety issues proactively. This in turn assists the agency to utilize safety funding for projects that will mitigate all identified safety problems. NMDOT and Bernalillo County identified a mile and half section of Tramway Boulevard for an RSA. The principal goal of the RSA is to determine safety deficiencies and hazards to public right-of-way (ROW) users on Tramway Boulevard at the following intersections (from south to north):



- San Rafael Avenue
- Tramway Terrace Place
- San Bernardino Drive
- Paseo del Norte
- Live Oak Road
- Cedar Hill Road

Additionally, the safety audit will be specifically reviewing dilemma zone issues along the corridor. Dilemma zone protection is defined as a condition in which drivers approaching an intersection are confronted with a choice of whether to stop or continue through the intersection upon the onset of a yellow light, but in this case the vehicle is traveling at a speed such that they can neither stop safely at the stop bar nor clear the intersection before the start of a conflicting green phase.

There were no major safety issues identified in the field. Some minor safety issues are listed below with accompanying strategies:

- The use of dilemma zone detection during off-peak hours, when a coordination plan is not in effect, could reduce the occurrence of rear end accidents by providing safe passage through the intersection during the phase change interval for a wide variety of speeds.
- If angle accident rates increase, it may be prudent to eliminate permitted left-turn phasing from the Tramway Boulevard approaches. It should be noted that the ITE Signal Timing Manual recommends that protected only phasing be employed on approaches where the speed limit or 85th percentile speeds of the opposite approach are greater than 45 mph.
- Improvements to pedestrian facilities on the west side to address the latest ADA requirements including appropriate ramp slopes, tactile ramp surfacing, and updated pedestrian button locations. Many locations need to realign crosswalks.

- Restriping intersections that are worn at Paseo del Norte, Live Oak, and Cedar Hill intersections.
- At many intersections there is enough width to provide an exclusive bike lane between the through lane and right-turn lane and/or between the through lane and acceleration lane. At locations where there is not enough width, shared striping and signage can be installed.

San Mateo-Central RSA

Due to the fact that the Central New Mexico region has been identified by the FHWA as needing to improve pedestrian safety due to relatively high pedestrian-auto fatal crash rates. Therefore the San Mateo/Central Avenue intersection was identified for study through the Road Safety Audit (RSA) process. This particular intersection exhibited the highest pedestrian crashes on the Central Avenue corridor, which has one of the greatest pedestrian crash rates of any corridor in the Albuquerque metropolitan area. Field observations were documented and potential recommended mitigation was offered.

Many of the recommended mitigation measures are included in the regional safety plan. The ones that are most applicable are the following:

- Automate the pedestrian phase of signals and check signal timing to allow enough seconds for a pedestrian to safely cross according to the Manual of Uniform Traffic Control Devices
- Provide pedestrian median refuges and plan for one-stage crossings
- Reduce turning radii to reduce speed of turn maneuvers.
- Provide a No Turn on Red phase to the signal plan with a dynamic sign.
- Provide a leading pedestrian interval (LPI).
- Instead of following the 1991 American Disabilities Act Accessibility Guide (ADAAG) for designing crossings, use the more progressive draft Public Right-of-Way Accessibility Guidelines (PROWAG) to provide additional space in key locations. The ART Project will follow PROWAG guidelines. Some more specific recommendations within the PROWAG framework include:
    - Provide 10 foot wide sidewalks
    - Ensure that corner ramps align with striped sidewalks
    - Ensure clear space for boarding and alighting
- Investigate lane reductions on San Mateo Blvd and reduce the posted speed limit to 35 mph.
- Add backplates with retroreflective borders to all signal heads to allow greater visibility of traffic signals during daytime and nighttime hours.

Bernalillo County Pedestrian & Bicycle Crash Data Analysis 2008-2011

This report was created by the Mid-Region Council of Governments (MRCOG) with support from Bernalillo County though the Centers for Disease Control and Prevention's Community Transformation Grant. The inspiration for this report began in 2013 with the West Central Road Safety Audit. This audit shed light on both the limitations and possibilities of using regularly collected crash data to improve the region's understanding of pedestrian and bicycle safety. This report focuses on the 744 crashes

involving pedestrians and the 690 crashes involving bicyclists from 2008 to 2011 that occurred in Bernalillo County. Key findings that are described in further detail in this report include:

- In 2011, New Mexico was ranked 5th in the nation for pedestrian fatalities per capita. However, because bicycle fatalities are relatively rare events, New Mexico's bicycle crash ranking fluctuates significantly from year to year.
- Not surprisingly, pedestrian and bicycle fatalities are far more likely to result in death or injury than crashes involving motor vehicles alone. In Bernalillo County, pedestrian crashes are 25.5 times more likely to be fatal and bicyclist crashes are 4 time more likely to be fatal.
- Of the 38 fatal pedestrian crashes, 50 percent involved a pedestrian who was intoxicated. Although it is difficult to determine who it at fault with these data, in 31.2 percent of pedestrian crashes and 36.2 percent of bicyclist crashes, the officer reporting on the crash indicated that the pedestrian or bicyclist did not contribute to the crash.
- Central Ave and San Mateo have the highest number of both pedestrian and bicyclist crashes. Several intersections along these corridors were especially dangerous, including Central and San Mateo, San Mateo and Montgomery, Central and Louisiana, and Central and Eubank.
- More than half of bicycle crashes—61.7%—occurred on roadways without bicycle infrastructure.
- Pedestrian crashes, are correlated with areas of high pedestrian activity, including major transit hubs, UNM, and Downtown.

Isleta Blvd Pedestrian Hybrid Beacon Evaluation

The first pedestrian hybrid beacon was constructed and activated on October 8th, 2014 at the intersection of Isleta Boulevard and Perry Rd/McEwin Road with Bernalillo County in the South Valley of the Albuquerque. The purpose of this study was to evaluate the operation of this new traffic control device. Results indicated that approximately 2/3 of all vehicles fully complied with the operation of the pedestrian hybrid beacon and 1/3 partially complied meaning they entered at the beginning of the solid red phase but ultimately stopped for the pedestrian. There were no non-compliance observations. There were approximately 25% of all crossings where the pedestrian did not activate the signal.

Although no strategies were provided for improving the crossing, it could be inferred that educational efforts for new types of traffic control facilities should be a focus.

NMDOT 2016 Highway Safety Plan

The NMDOT has developed a 2016 Highway Safety Plan for the State of New Mexico. Some of the strategies that were identified in that plan include the following:

- Bicycle/Pedestrian strategies such as requiring bicycle/pedestrian rules of the road questions and education in the licensing process and improve bicycle demand data collection.

- Motorcycle safety training program. Funding for media placement of motorcycle safety messages such as “Share the Road”
- Increased pedestrian refuges.
- Revisit the approach to setting speed limits
- Enhance graduated licensing for young drivers
- Improvement of access management
- Better tracking of repeat impaired driving offenders

NMDOT 2016 Strategic Highway Safety Plan

The NMDOT prepares an annual report documenting state-wide crash characteristics as well as proposing strategies to offset identified crash trends. This reports documents crash characteristics and mitigation strategies for 2016 by looking at 5 and 10 year trends. This includes concerns regarding distracted driving, impaired driving, aggressive driving, multi-modal safety, and young road users.

Many of the recommended mitigation measures are included in the regional safety plan. The ones that are most applicable are the following:

- Educational outreach for driver interaction with pedestrians and bicycles.
- Increase awareness of distracted driving using aggressive “Just Drive” public education and awareness campaigns.
- Ban cell phone use while driving and increase and strengthen enforcement of cell phone use/text messaging.
- Change legislation to restrict the number of alcoholic drinks served and continue working on public awareness regarding amount of alcohol consumed.
- Implement active speed warning signs, including dynamic message board at rural-to-urban transitions.
- Implement incentive program for helmet use for motorcycle driving.
- Improve crash data documentation through such automated programs like Traffic and Criminal Software (TRaCs)
- Explicitly include the safety of all road users in the design of transportation projects, including maintenance projects and plans
- Install traffic calming roadway sections and intersections, such as road diets
- Install street lighting and other measures to improve conspicuity and visibility of pedestrians.
- Provide and promote alternative transportation for young drivers.

NMRX Grade Crossing Pedestrian and Bicyclist Safety Study

The purpose of this study was to develop a toolbox to assemble pedestrian/bicycle safety devices recommended by federal and other various agency reports including a pedestrian/bicycle crossing evaluation form and standard pedestrian/bicycle treatments at at-grade railroad crossings. The goal is to improve safety at existing at-grade railroad crossings and provide better designs of new crossing locations.

Many of the recommended mitigation measures are included in the regional safety plan. The ones that are most applicable are the following:

- At railroad crossings designated as “quiet zones” where no train horn is sounded, signs informing pedestrians and bicyclists of this fact need to be present.
- Pavement markings and signage should be improved to include multi-use pathway crossings throughout the corridor.
- Similar to the Courthouse study, tactile surfaces should be included at at-grade pedestrian crossings of rail facilities.
- Barrier treatments should be employed at pedestrian/bicycle crossings of rail facilities to discourage pedestrians and bicycles from unsafe areas.
- Safety studies should employ the evaluation form developed in this study to evaluate existing at-grade rail facilities.

City of Albuquerque Neighborhood Traffic Management Program (NTMP)

The purpose of this manual is to develop a city-wide policy on how to identify traffic calming projects, typical traffic calming treatments, project priority procedures, and implementation processes.

Many of the recommended mitigation measures are included in the regional safety plan. The ones that are most applicable are the following:

- High visibility crosswalks such as the use of colored pavement to contrast road pavement from pedestrian crossing area.
- Construction of one lane or two lane chokers in neighborhoods with cut-through and speeding issues.
- Construction of chicanes to reduce speeds on local streets.
- Raised intersections to reduce speeds and improve pedestrian visibility.
- Limit movements through the use of road closures, partial closures, median dividers, forced turn islands and diagonal diverters to limit or eliminate cut-through traffic on residential streets.
- Conversion of two-way streets to one-way couplets.
- Adoption of some of the procedures and tool boxes within this manual in other AMPA urban areas.

Bernalillo County Pedestrian and Bicyclist Safety Action Plan

This safety action plan, developed in 2012, is a ten-year Rank 2 facility master plan that is intended to identify pedestrian and bicycle issues with Bernalillo County. This plan includes an overview of existing plans, studies, and ordinances as they pertain to pedestrian and bicycle facilities; inventory of existing facility needs, proposed policy changes, and proposed/priority projects.

Most strategies included in this plan are already included in our plan except for the following:

- Sidewalks are to be constructed at a minimum of 5 ft wide with a 5 ft buffer. Bike lanes are to be constructed at a minimum of 6 ft wide. Multi-use trails are to be constructed at a minimum of 10 ft wide.
- ADA compliant transit stops.
- Limit residential block lengths to 600 feet to increase walkability.

- Improve connectivity by building pedestrian access points through cul-de-sacs from adjoining streets to increase access to other subdivisions, schools, parks, community centers, and retail areas.
- All commercial buildings must provide access connections from public sidewalks to building entrances.
- All new roadway projects should be designed to safely accommodate pedestrians and bicyclists – of different ages and abilities – as well as motorist. This should be incorporated in the County's Street Standards.
- Trail projects should also be designed with user safety in mind.

The Plan lists the following existing corridors in this study's area where sidewalks are needed:

- Rio Bravo Boulevard from the Rio Grande to I-25
- Broadway Boulevard from Desert Road to Woodward Road
- Prince Street from Prosperity Avenue to Camino del Tren

The Plan cites that the following multi-use trails are called for as MRGCD or AMAFCA facilities:

- The extension of the Rio Bravo Boulevard trail to the west
- South Diversion Channel trail north to Sun port Boulevard
- The extension of the Rio Grande Bosque trail to lsleta Pueblo boundary

The Plan cites the following existing corridors where bike lanes are needed:

- Broadway Boulevard from I-25 to Woodward Road
- 2nd Street
- Rio Bravo Boulevard from the Rio Grande to I-25
- Bike lanes are planned as part of the construction of the Sunport Blvd extension from I-25 west to Broadway Boulevard.

Pedestrian and Bicycle Travel Monitoring 2016 Report

While this report does not provide safety strategies directly, it does provide pedestrian and bicycle count data and patterns at several count locations within the International District and South Valley. This report demonstrates the need and value of expanding our pedestrian and bicycle count programs. Here are some things that could be inferred from this report:

- Increased bicycle demands were noted on locations where buffered bicycle lanes were now provided.
- More bicycles were found to use the sidewalks along Bridge Boulevard and Isleta Boulevard due to the fact there are no buffered bicycle lanes.
- More substantial pedestrian facilities are needed at locations where assisted living and community service facilities are located. A survey of these type of land uses should be considered when developing pedestrian projects.

Pueblo of Laguna Bicycle and Pedestrian Route Plan

This Plan effectively outlines a non-motorized transportation network that is intended to not only connect all six villages but also provide connections within each village. The

Plan was developed with both commuters and recreational users in mind. It is expected that the improved non-motorized network will not only make these alternative modes of travel more viable and attractive. Several projects were identified to achieve the ultimate network and will be implemented over the next 20 to 30 years as funding becomes available. Generally the strategies found in this report are mirrored in our plan aside from the following:

- Multi-use paths with a minimum 5 ft buffer form the spine of the trail network with both asphalt and crusher fine as materials for these paths depending on community feedback.
- A roundabout constructed at the intersection of Highway 124, Old Route 66, and School House Rd with address the safety concerns at the intersection. A multi-use path will also feed into the roundabout. Sidewalks and high-visibility crosswalks will be implemented to improve safety of bicyclists and pedestrians.
- A road diet will be applied to Highway 124 between the intersection of Highway 279 and the intersection of School House Rd and Old Route 66
- Provide buffers separating pedestrian paths and trails adjacent to the roadway.
- Increase bicycle parking facilities to increase bicycle ridership and use of the facilities.
- Add shade structures on pedestrian routes to increase the attractiveness of the pedestrian mode of choice.

City of Rio Rancho Bicycle and Pedestrian Transportation Plan

The City of Rio Rancho's vision is to provide its citizens with walkable and bicycle friendly neighborhoods offering viable and safe access to healthy modes of transportation. To help achieve this goal, this plan was developed to plan and guide the development of the pedestrian and bicycle network specifically identifying and prioritizing construction of multi-use trails and bicycle facilities to achieve connection between neighborhoods.

In general most of the recommended improvements and practice are consistent with what we are already including in the RSAP except for a few ideas that could enhance our plan. These include the following:

- The City requires that all new roadway construction accommodate bicyclists with dedicated bicycle lanes
- Bike lanes are proposed on stretches of Northern Blvd, Chayote Rd, Rainbow Blvd, Idalia Rd NE, Progress Blvd, Chessman Dr NE, Southern Blvd SE, Unser Blvd, and Westphalia Blvd NE.
- Bike routes are proposed on stretches of Idalia Rd, Western Hills Dr SE, and Baltic Ave SE.
- A Bicycle Boulevard is recommended on Pecos Loops.
- Priority pedestrian connection recommendations include:
    - Additional and high-visibility crossings to improve safe routes to school (SRTS) at Vista Grande Elementary School
    - Access to retail and additional high-visibility crossings on NM 528 between Kim Rd NE and Iris Rd/Riverside Dr

    - Complete sidewalk network on south side of Southern Blvd and add crossings between the school and Rainbow Park, including high-visibility mid-block crossings and other SRTS connections
    - Sidewalk extension and crossings improvements at King Blvd from Unser Blvd Wilpett Rd.
- Implementation of colored bicycle lanes at conflict areas.
- Construction of bus turnouts at stops.

West Central Avenue (Coors Boulevard to Sunset Drive) Pedestrian Road Safety Audit Report

Due to Albuquerque qualifying as Pedestrian Focus City (higher than average pedestrian fatality rates), efforts to reduce pedestrian crashes and increase safety are paramount. As part of that effort, a road safety audit was undertaken along the West Central Avenue Corridor, which had exhibited high numbers of mid-block pedestrian crashes. The study conducted extensive field observations and noted a large number of midblock pedestrian crossings near transit stops. The study documents several mitigation measures for pedestrian safety ranging from education to design recommendations. Some of the recommendations that might enhance the RSAP include the following:

- Move stop lines further back (30 feet) from midblock or uncontrolled crosswalks.
- Channelizing barriers to guide pedestrians to controlled crossings.
- Locate bus turnouts closer to intersections with turnouts.
- Rio Bravo Boulevard from the Rio Grande to 1-25
- Bike lanes are planned as part of the construction of the Sun port Boulevard extension from 1-25 west to Broadway Boulevard

The Plan points out the following gaps in these South Valley bikeways and multi-use trails system that are within this study's boundaries:

- Chris Chavez Trail between South Diversion Channel and University Boulevard along Rio Bravo

The County's Pedestrian and Bicyclist Safety Action Plan culminates in a list of potential projects, which include the following that are located within this study's boundaries:

- Adding sidewalks, crosswalks, and lighting along Prince Street between Rio Bravo Boulevard and Camino del Tren
- Adding sidewalks, crosswalks, and lighting along Woodward Road between 2nd Street and Broadway Boulevard
- Adding sidewalks, bike lanes or wide shoulders, crosswalks, and lighting along Broadway Boulevard between Desert Road and Woodward Road
- Adding a multi-use trail, crosswalks, and lighting along 2nd Street from Desert Road to Woodward Road
- Extending the multi-use trail along the South Diversion Channel from Sun port Boulevard to Gibson Boulevard

Central Avenue in Albuquerque’s International District: Health In All Policies

This report approaches the overall improvement of the public health by investigating potential improvements to the streetscape to not only reduce pedestrian and bicycle crashes but also enhance the attractiveness of the pedestrian/bicycle modal choice to improve physical health. The study reviews current urban conditions that contribute to traffic crashes and cause the pedestrian mode of travel to be less attractive than other modes.

Many of the recommended mitigation measures are included in the regional safety plan. The ones that are most applicable are the following:

- Add benches and tables throughout the area to improve “eyes on the street”
- Provide more lighting and improve maintenance on current lighting, especially at bus stops
- Improve crosswalk visibility
- Add mid-block crossings with a blinking light at Central Ave and California St to prevent illegal crossings.
- Eliminate driveways that are not in use and improve uneven surfaces through re-design of curb cuts
- Widen sidewalks and redesign corners with a tighter curb radius and bidirectional ramps.
- Provide more pedestrian amenities such as covered transit stops, shaded walkways, and more attractive landscaping.

NM 6/NM 47 Road Safety Audit

The following report is a summary of a Road Safety Audit (RSA) that was conducted on September 17th 2015 for the signalized intersection of NM 6 and NM 47 in Los Lunas, NM. This report details the RSA scope, procedure, preliminary data analyses, field observations, conclusions and recommendations.

Road Safety Audits (RSA) are typically used by road agencies to identify and mitigate safety issues proactively. This in-turn assists the agency to utilize safety funding for projects that will mitigate all identified safety problems. The Village of Los Lunas identified the intersection of NM 6 and NM 47 and the adjacent Valencia Y mall entrance approximately 800 feet northeast of the NM 6/NM 47 intersection. The Village of Los Lunas applied for Highway Safety Improvement Program (HSIP) funding from the New Mexico Department of Transportation (NMDOT) citing multiple instances of angle collisions and sideswipe crashes and inadequate ADA facilities. The principal goal of the RSA is to determine safety deficiencies and hazards to public right-of-way (ROW) users at this study intersection and provide potential mitigation treatments for identified safety issues.

Many of the recommended mitigation measures are included in the regional safety plan. The ones that are most applicable are the following:

- Sharpen channelized right-turn lane approaches to encourage slower speeds thereby reducing pedestrian crash risk and severity.
- Pedestrian facilities should be brought up to the latest PROWAG standards, especially at intersections such as NM 6/NM 47.

- Smaller communities such as Los Lunas should put effort and resources into creating a regional bicycle plan to improve bicycle facility and connectivity.
- Transit turnouts were recommended to be considered for the adjacent Rio Metro stops to minimize rear end and sideswipe crash potential.

NM 314/Court House Road Safety Audit

Road Safety Audits (RSA) are typically used by road agencies to identify and mitigate safety issues proactively. This in-turn assists the agency to utilize safety funding for projects that will mitigate all identified safety problems. NMDOT identified the intersection of NM 314 and Court House Road due to its close proximity to an at-grade rail crossing immediately to the east and the interaction of operations between the two intersections, especially when a rail crossing event occurs. The principal goal of the RSA is to determine safety deficiencies and hazards to public right-of-way (ROW) users at this study intersection and provide potential mitigation treatments for identified safety issues.

Many of the recommended mitigation measures are included in the regional safety plan. The ones that are most applicable are the following:

- Use of railroad crossing gates should not only be applied for vehicular traffic but also pedestrian/bicycle crossings.
- Where signalized intersections are near at-grade railroad crossings, LED turn restriction signs should be installed to stop vehicles from getting caught on or near tracks when a railroad crossing event occurs.
- Again, when signalized intersections are near at-grade railroad crossings, the need for a pre-signal should be evaluated and preemption should be appropriately timed.
- PROWAG requirements should also be accommodated for pedestrian crossing of railroad facilities, this included tactile surfaces and appropriate slope grades.
- Reduction of closely spaced driveways near signalized intersections (Access Management)
- Construction of a roundabout for traffic calming purposes, especially for intersections near multi-modal locations such as the Railrunner Transit Center on Court House Road.
- Measure new clearance widths (once stop line locations are determined) to calculate new all-red clearance intervals.