TECHNICAL REPORT STANDARD PAGE

1. Title and Subtitle
Statewide Lane Reconfiguration "Road Diet" Screening for Louisiana

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5. Report No.
FHWA/LA.26/731

6. Report Date
October 2026

7. Performing Organization Code
LTRC Project Number: 24-6SS
SIO Number: DOTLT1000524

8. Type of Report and Period Covered
Final Report
July 2024 to September 2026

9. No. of Pages
109

10. Supplementary Notes
Conducted in Cooperation with the U.S. Department of Transportation, Federal Highway Administration.

11. Distribution Statement
Unrestricted. This document is available through the National Technical Information Service, Springfield, VA 21161.

12. Key Words
Road diet; lane reconfiguration; emerging dataset; active transportation; street parking; crash reduction; speed management

13. Abstract
Reducing the number or width of vehicle through lanes and dedicating the space to other uses, such as parking, multimodal infrastructure, or turning lanes (i.e., "road diets"), has become more popular due to its cost-effectiveness as a strategy to increase multimodal accessibility and safety for all road users. However, methodological challenges and data gaps make it difficult to quickly assess opportunities for statewide implementation. A data-driven framework for evaluating the feasibility and opportunity of road diets throughout Louisiana is presented in this study. A scalable, replicable, and flexible method was developed to assess more than 1.8 million 0.1-mi. roadway segments by combining state agency design guidelines with roadway geometry, traffic operations, land use, human activities, crash data, and speed data. Traffic thresholds, design standards, and geometric compliance

were used to evaluate feasibility. Results show that 1.8% (3,091 mi.) of the road segments qualified for lane width adjustment, and 0.5% (569 mi.) for lane reduction. Opportunity measures were developed from mobility analytics to reflect active transportation demand, spatial relationships with nearby businesses to reflect parking needs, and historical crash and speeding data analysis to reflect safety improvement potential. Among eligible segments, opportunity priority is assigned based on the calculated active transportation investment score, parking need score, road diet-related crash rate, and speeding rate. The findings are compared against recently completed and proposed road diet projects, and three case studies are included to illustrate the effectiveness of the framework. The recommended approach offers flexibility for adaptation to local contexts while improving consistency and transparency in statewide screening programs. This study demonstrates how investments that enhance roadway function and community outcomes can be more targeted by combining traditional design evaluation with cutting-edge data sources.

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SIO No. DOTLT1000524

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October 2026

Abstract

Reducing the number or width of vehicle through lanes and dedicating the space to other uses, such as parking, multimodal infrastructure, or turning lanes (i.e., “road diets”), has become more popular due to its cost-effectiveness as a strategy to increase multimodal accessibility and safety for all road users. However, methodological challenges and data gaps make it difficult to quickly assess opportunities for statewide implementation. A data-driven framework for evaluating the feasibility and opportunity of road diets throughout Louisiana is presented in this study. A scalable, replicable, and flexible method was developed to assess more than 1.8 million 0.1-mi. roadway segments by combining state agency design guidelines with roadway geometry, traffic operations, land use, human activities, crash data, and speed data. Traffic thresholds, design standards, and geometric compliance were used to evaluate feasibility. Results show that 1.8% (3,091 mi.) of the road segments qualified for lane width adjustment, and 0.5% (569 mi.) for lane reduction. Opportunity measures were developed from mobility analytics to reflect active transportation demand, spatial relationships with nearby businesses to reflect parking needs, and historical crash and speeding data analysis to reflect safety improvement potential. Among eligible segments, opportunity priority is assigned based on the calculated active transportation investment score, parking need score, road diet-related crash rate, and speeding rate. The findings are compared against recently completed and proposed road diet projects, and three case studies are included to illustrate the effectiveness of the framework. The recommended approach offers flexibility for adaptation to local contexts while improving consistency and transparency in statewide screening programs. This study demonstrates how investments that enhance roadway function and community outcomes can be more targeted by combining traditional design evaluation with cutting-edge data sources.

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Acknowledgements

The authors would like to thank LTRC and Louisiana DOTD for funding our research. The authors would also like to thank all the Project Review Committee members for their input during the problem development stage, which shaped the research investigation, as well as all stakeholders who responded to requests for information and/or data about completed or planned road diet projects.

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Implementation Statement

This study investigated opportunities for, and the feasibility of, implementing road diets statewide to help Louisiana develop a network that accommodates non-motorized travel and meets other potential needs (e.g., parking and speed management). Additionally, it provides an analytic framework for identifying suitable roadways at the segment, corridor, and network levels. This framework enables DOTD Districts to proactively identify road diet candidates during project scoping, using an interactive web map to review feasibility and opportunity data for corridors within their jurisdiction and, where feasible, facilitate more proactive discussions with local agencies about alignment with local priorities. Local agencies can use this screening to support grant applications, Complete Streets initiatives, and coordination with DOTD on road transfer corridors by referencing data-driven feasibility and opportunity scores. Agency leadership can use the statewide results to understand the scale of road diet opportunity across Louisiana and prioritize investment in corridors where feasibility and documented needs converge.

To implement the findings of this study, this framework should be formalized and operationalized by DOTD, including the following recommended steps to institutionalize the study outputs within DOTD processes. These include:

- **Guidance memo**: Any road diet implementation on state-owned routes must be supported by a traffic study consistent with DOTD policies (e.g., DOTD's Intersection Control Evaluation [ICE] Policy), including analysis of operational and safety impacts before changing roadway geometry or capacity. The screening outputs are intended to support project identification and prioritization, not replace the engineering analysis required by DOTD policies.
  - — Using field-verified data, rather than relying solely on the statewide screening outputs, would improve reliability at the project level and should be highlighted for both state and locally owned corridors.
  - — Isolated segments shorter than a minimum practical length (e.g., 0.3 to 0.5 mi.) should be treated with caution and verified against field conditions before being considered as candidates for a road diet.
  - — Several isolated segments may be identified as feasible candidates on a corridor. In these cases, it is worthwhile to identify the reasons the gap segments fail the feasibility screening (e.g., higher traffic volume, different lane configuration, or missing data). The delivered map package contains such notes and encourages data collection for corridor-level application.

— Systematic, consistent evaluation of outcomes when projects are implemented would be a useful tool for building public understanding of and support for road diet projects in many instances. Development of guidance to encourage such evaluation should be integrated into the memo.

- **Institutional integration**: The decision tree (see Figure 1) is designed to be self-contained and reproducible with available data. Integrating it into the Stage 0 checklist or PRR Guidelines would provide a structured, standardized entry point for road diet evaluation early in project development.
- **Pilot at selected Districts**: The case studies in Baton Rouge and New Orleans and Road Transfer Program analysis provide a natural starting point for selecting pilot areas with demonstrated feasibility and local interest. Additionally, the interactive web map and ArcGIS map package delivered with this study can serve as further references. However, it should be noted that using field-verified data, rather than relying solely on statewide screening outputs, would improve reliability at the project level.
- **Complete Streets linkage**: The report references DOTD's Complete Streets Policy and notes that the framework's active transportation scoring directly supports Complete Streets objectives. As state and local agencies work to advance multimodal planning initiatives and project implementation, the screening framework and preliminary results provide a resource for identifying and prioritizing potential low-cost, high-impact projects.
- **Create a public-facing dashboard**: The interactive web map and ArcGIS map package delivered with this study can serve as a starting reference for identifying planning and project opportunities, while the decision tree provides the methodology for updating assessments with current data. The next step is to integrate spatial data into a public-facing dashboard that highlights opportunities for using study data and results, in accordance with the guidance memo.

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Introduction

Expanding two-lane roadways to four lanes was a common practice in the 1950s, 1960s, and beyond to increase motorized vehicle capacity in the U.S. [1]. However, many of these roadways were built to accommodate substantially higher volumes of motorized traffic than ultimately materialized, creating opportunities to repurpose excess travel lanes for other uses. In other cases, roadway widening has been documented to result in "induced demand," whereby traffic shifts from other routes, times, or modes to the newly widened facility. This process can undermine intended access and congestion reduction benefits while producing negative externalities associated with increased traffic volumes [2].

A "road diet" is an intervention that works within the existing right-of-way to improve safety, operations, and multimodal access. As defined by the Federal Highway Administration (FHWA), a road diet involves removing travel lanes from a roadway and reallocating that space to other uses or travel modes. The most common road diet application converts a four-lane undivided roadway into a three-lane undivided roadway consisting of two through lanes and a center two-way left-turn lane [3].

Many transportation agencies in the U.S. have incorporated road diets into their institutional policies and design guidance [3]. Several state Departments of Transportation (DOTs), including Florida [4], Maine [5], and Michigan [6], have adopted standalone road diet policies. Other state DOTs, including Arkansas, Minnesota, and Ohio, have incorporated road diets into their Strategic Highway Safety Plans (SHSPs), while some, such as New York, have included road diets in Complete Streets checklists.

Incorporating road diets into pavement preservation programs can significantly reduce the cost of developing connected multimodal networks when implemented alongside scheduled resurfacing projects [3] [7]. However, not all state DOTs have fully realized this cost-effective opportunity or systematically integrated road diets into preservation practices [8]. Road diets may also be considered during bridge preservation projects to improve operational performance [9]. Collectively, these potential benefits underscore the importance of more systematic consideration of road diets to support policy development and implementation.

This study documents the research team's experience conducting a statewide road diet screening in Louisiana by leveraging emerging datasets to expand feasibility and opportunity measures. The next section begins with a review of more than 60 publications related to road diets and lane reconfigurations, including public agency documents and guidance, as well as academic literature examining specific implementation outcomes.

This review highlights a robust body of evidence documenting the benefits of road diet projects and identifies a wide range of feasibility and opportunity factors that have been proposed or applied in practice. The subsequent section provides an overview of datasets that can support statewide analysis of these feasibility and opportunity factors, along with a discussion of data limitations and future data-collection needs. The methodology section then describes the framework applied in this statewide road diet screening effort, followed by sections presenting screening results and case analyses.

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Literature Review

The research team reviewed more than 60 publications related to “road diets” and lane reconfigurations, including public agency documents and guidance, as well as academic literature examining specific implementation outcomes. The review highlights a robust body of evidence documenting the benefits of road diet projects and identifies a wide range of feasibility and opportunity factors that have been proposed or applied in practice. The list of reviewed literature is included in Appendix A.

Feasibility Factors

A feasibility analysis assesses whether a roadway segment, corridor, or intersection is a good candidate for a road diet. Annual average daily traffic (AADT) is the most ubiquitous screening factor; however, other variables may be equally important. These include peak-hour volume, lane widths, prior crash history, posted and prevailing speeds (with road diets generally considered viable only where speeds are 45 mph or less) [10], turning volumes, freight demand, the presence of transit service, pedestrian and bicycle activity, level of service (or travel time), and accessibility [1]. Additional feasibility factors may include the number of traffic signals, intersection and/or driveway density, and adjacent land use. Finally, the degree of public support for a project is widely regarded as a critical factor in project feasibility. This section outlines threshold values identified in the literature for several of these factors. Unless otherwise noted, these values reflect findings from, or recommendations for, converting four-lane roadways to three lanes (4-3).

Average Daily Traffic (ADT)

ADT is considered a useful first step in evaluating whether a roadway is suitable for a road diet conversion. However, guidance on what constitutes an appropriate ADT threshold for road diet consideration is inconsistent [11]. Historically, ADT values for sites selected for 4-3 road diet applications have ranged from approximately 2,000 to 26,000 vehicles per day [1]. Based on this experience, FHWA has suggested that roadways with an ADT of 20,000 or less may be good candidates for a road diet [7] [12] [13]. This threshold has been widely adopted as a general screening criterion. FHWA further defines several classes of potential road diet candidates based on ADT ranges [14]:

- < 10,000 ADT: Excellent candidates, where capacity impacts are unlikely.

- 10,000 to 15,000 ADT: Good candidates in many instances, although intersection analysis and signal retiming may be required.
- 15,000 to 20,000 ADT: Potentially suitable candidates, but requiring more detailed corridor-level analysis to assess capacity impacts.
- > 20,000 ADT: Possible candidates, typically requiring a full feasibility study; such cases may be appropriate where documented safety concerns exist and/or where walking and bicycling needs are prioritized.

Far fewer established threshold values exist for evaluating feasibility for alternative configurations (i.e., facilities with more than four travel lanes prior to implementation). Examples of road diet applications have been identified on corridors with ADT values as high as 45,000 vehicles per day (e.g., Venice Boulevard in Los Angeles, which was reduced from seven lanes to five). The Tennessee Department of Transportation [10] offers ADT thresholds for a range of common road diet configurations (e.g., 4–3, 5–3, 6–5, 7–5), with the latter categories consistently requiring more advanced traffic analysis.

The Highway Capacity Manual provides indicative capacity thresholds for maintaining Level of Service (LOS) D/E: approximately 16,000 ADT for a two-lane roadway with left-turn lanes, 31,000 ADT for a four-lane roadway with left-turn lanes, and 44,000 ADT for a six-lane roadway with left-turn lanes [15]. However, it is important to note that capacity estimates derived from the ITE Trip Generation Manual, which informs these thresholds, are generally based on typical suburban land-use assumptions and do not account for internal trip capture. Internal trip capture may increase investments in multimodal accommodations associated with road diet projects. Additionally, capacity reduction may be less than anticipated if the roadway currently functions as a "de facto 3-lane road" due to high volumes of left turns [1]. As a result, maintaining adequate multimodal LOS following a road diet may be feasible even when existing ADT values suggest that a corridor is operating near capacity.

Finally, average daily volumes of other road users (e.g., pedestrians, bicyclists, transit riders, etc.) should also be considered as part of the feasibility analysis [1]. Increases in bicycling are particularly common, as many road diets involve the provision of new dedicated bikeways [7] [16] [17] [18], though increased pedestrian activity levels may also be observed [18] [19]. Analytic approaches that estimate latent demand for active transportation may thus be needed to holistically assess opportunities within a corridor.

Number and Width of Lanes

This review assumes projects that may be implemented within a constrained right-of-way (i.e., no land acquisition required), although some roadway reconfigurations may include more involved curb relocation components. Analysis of the full right-of-way should be considered to determine potential project scope, relative to identified need and logistical constraints [20].

As noted above, while the “classic” road diet involves converting a four-lane roadway to three lanes (4–3), other configurations may also be considered, including lane-width-reduction-only projects and road diets of larger-capacity roadways. Cebe [21] identified examples of a variety of other typologies (e.g., 5–3, 6–4, 6–5, 7–5, and even 9–7). Some projects may involve asymmetrical lane configurations to meet varying needs within a corridor [1] [22] [23] or involve a more complicated conversion of a roadway to one-way traffic [20].

In addition to defining the typologies of lane-elimination road diets described above, Aryal et al. [24] also provide typologies for lane-width-only reconfigurations, establishing typical travel lane minimums of 10 ft. and turn or parking lane widths of 9 ft. [24]. They also include conversions that provide shoulders striped for pedestrian use as an alternative option for rural applications, consistent with the Public Right-of-Way Accessibility Guidelines (PROWAG). FHWA notes that such projects have the co-benefit of reducing edge deterioration and maintenance if designated for non-motorized users [25].

Previously, FHWA has indicated that in urban or suburban contexts, travel lanes as narrow as 9 ft. can be feasible [7]. Florida, meanwhile, differentiates between urban and rural applications, providing for 10 ft. minimum lanes in urban areas but 11 ft. minimums in rural areas, and even higher in some locations depending on design speed, annual average daily traffic, or truck volume, in accordance with its adopted context classification scheme. Delaware prescribes 11 ft. lanes for roadways with speed limits between 35 and 50 mph, especially if they include bike lanes, and 10 ft. lanes for slower streets unless that street includes transit or a high number of trucks [26]. The Highway Capacity Manual indicates that saturation flow rate is less than 5% lower for a 9.5 ft. lane compared to a 12 ft. lane, suggesting that lane narrowing is unlikely to have significant impacts on corridor capacity in many cases [15].

Peak Volumes

Peak-hour travel times may be affected by road diet implementation even when the resulting configuration is considered suitable for the corridor's overall capacity [16] [27]. Guidance from the Center for Transportation Research and Education (CTRE) indicates a

suitable maximum peak-hour volume of approximately 1,500 vehicles per hour (vph) for four-to-three-lane (4–3) road diet conversions, with a more detailed feasibility assessment recommended when peak-hour volumes exceed 1,750 vph [28]. Several studies corroborate 1,750 vph as a reasonable upper threshold for achieving optimal operational outcomes [4] [5] [24] [29]. Other research suggests a more conservative threshold of approximately 750 vph per lane, equivalent to a total of 1,500 vph for a two-lane roadway, when evaluating peak-hour feasibility [11] [17].

Meanwhile, FHWA identifies a maximum directional peak-hour volume of approximately 875 vph as a general screening criterion [13]. While some studies have documented anticipated peak-period congestion effects following road diet implementation [23] [30], other research has observed decreases in peak-hour volumes after implementation [24] [31] [32]. Evaluations conducted in Seattle and San Jose reported modest reductions in peak-period corridor traffic, with no evidence of diversion to parallel routes, where traffic volumes also declined [32] [33] [34]. These findings suggest that land use context and the presence of activity hubs at key intersections play an important role in determining whether traffic diversion occurs [30]. Where diversion is anticipated, traffic calming measures on parallel streets may be necessary to mitigate neighborhood impacts [1].

Temporally defined road diets can be implemented through the dynamic reallocation of lanes based on time-of-day demand to address concerns that heavy peak-hour demand may render a proposed road diet infeasible [35]. For example, on-street parking is prohibited during peak periods on certain corridors in Toronto to allow roadways to function as four travel lanes when needed [36].

Land Use and Urban Form

As noted above, land use and urban form are also key considerations in determining the feasibility and, in some cases, the opportunity of a road diet. Road diets may result in more adverse impacts in busy downtown environments, whereas commercial reinvestment areas, economic enterprise zones, historic streets, scenic roads, entertainment districts, and main streets, as well as corridors serving schools, parks, or retail uses, may represent strong candidates for implementation [1] [36] [37]. Benefits to adjacent businesses are often anticipated; however, there remains limited empirical research demonstrating these impacts or identifying which business types are most likely to benefit, beyond broader findings related to the economic effects of creating more walkable and multimodal built environments [24]. Environmental considerations related to development intensity or land use type, such as whether a corridor is located within a Congestion Mitigation and Air Quality (CMAQ) attainment area, should also be considered [6].

Aryal et al. [24] further recommend considering urban scale characteristics, including building height and roadway width (i.e., massing), to better align the right-of-way with its surrounding context. More broadly, adopting a context classification system for determining roadway function can help achieve this alignment [1]. At a minimum, different threshold values are typically needed for urban and rural contexts. For example, narrower travel lanes have been associated with higher crash rates in rural settings, while on dual carriageways, lane narrowing may be less effective at reducing vehicle speeds [26]. Street grid and access density are important. Gridded streets generally support road diet implementation [1].

Freight and Public Transit

Lane eliminations may improve safety and operations for large vehicles, such as transit and freight, by allowing for wider remaining lanes [4]. Some road diets are explicitly intended to add dedicated transitways [38]. However, negative impacts are also possible, as delivery trucks and transit vehicles may block traffic when stopped in the travel lane [1]. Accordingly, bus routes and freight corridors should be explicitly considered when evaluating road diet feasibility, with additional design considerations or mitigating elements required where roadway reconfiguration is otherwise deemed appropriate [1] [11] [29] [39].

Freight activity, measured as volume or percentage of heavy vehicles before and after roadway reconfiguration, is an important feasibility consideration. In at least one documented case, freight use of a corridor increased as a share of total traffic following a road diet implementation [32] [34]. Land use is a key determinant of freight demand even outside designated freight routes, with higher demand often associated with restaurant, commercial, and industrial uses; as such, land use context should be evaluated when direct freight volume data are unavailable [1].

Lane width adjustments must account for the needs of large vehicles to avoid increases in sideswipe crashes [4]. Specific thresholds for the acceptable volume of freight vehicles may be established. For example, in California, reduced minimum lane widths (11 ft. instead of 12 ft.) are permitted where truck ADT is less than 250 per lane (for urban areas, town centers, and rural main streets) and speed is 40 mph or less [26]. AASHTO recommends a minimum 11 ft. lane width where more than 8% of traffic consists of large vehicles [7]. An additional lane or a wider turn radius is recommended to reduce truck off-tracking and mitigate conflicts with vulnerable road users on curves or during turns [1] [4] [26]. Inclusion of painted or low-profile buffer areas that visually reduce corridor width while facilitating safe large vehicle movement can maintain the traffic calming benefits of a road diet, even where additional space is required [1]. Where corridor access

is modified, U-turn crossover treatments navigable by large vehicles may be needed [22]. Some treatments associated with road diets (especially two-way left-turn lanes, which can serve as passing lanes, or countermeasures to improve freight or transit safety) can also improve operations for emergency vehicles [37].

Road diets on larger arterials resulting in more than one lane of travel in each direction are less likely to be negatively impacted by freight and transit vehicle needs [21]. However, planning for existing or likely delivery zones is essential for all projects, especially where there is a likelihood of trucks stopping in the travel lane [4]. In cases where trucks cannot be accommodated after a road diet, jurisdictions will need to provide for alternate routes and sign them accordingly [4].

Transit data for proposed corridors and surrounding areas are also critical for assessing operational impacts during and after road diet implementation. Relevant considerations include service frequency, stop spacing, existing and proposed stop configurations (e.g., pull-outs versus bulb-outs), and travel speeds [4] [6] [17]. Some studies caution against implementing road diets on bus routes unless dedicated pull-outs are provided [16]. In some cases, concerns about traffic impacts have led to the rerouting of transit services [1]. The Tennessee Department of Transportation, for example, requires that a candidate corridor either does not serve as a bus route or that the transit agency approves bus pull-offs as part of initial project screening to minimize operational impacts. Conversely, other studies identify transit corridors, particularly those that also serve as key active transportation links, as strong candidates for road diet implementation [11] [36].

Road diet projects can include design of transit-specific infrastructure, such as bus pull-outs (preferred to reduce traffic delay) or bulb-outs (preferred to optimize transit performance), and improvements in bicycle and pedestrian access can lead to more transit usage [4] [11] [40]. In some cases, transit stops may need to be moved (e.g. from near side to far side, or vice versa) to better facilitate road diet implementation [1] [41]. Transit signal priority may also be implemented along with road diets, if desired [4]. At a minimum, lane widths should accommodate transit vehicles (generally 11 ft. minimum for outside lanes) where present [4]. Florida case studies indicate minimal impact on bus loading times or operations where such features were considered [4].

Finally, any interactions with at-grade rail crossings must be considered, both to ensure safe roadway design for all users and to consider potential impacts of transit and freight vehicles, which must treat these as stops [6].

Intersections

Importantly, the ADT of not only the target corridor but also of its intersecting streets must be assessed. Road diets can result in significant safety improvements to signalized intersections, in particular [42], as well as general traffic calming [32]. Some studies have indicated that there is often no statistical impact on intersection LOS, particularly if a project is linked to decreased traffic volume or increases in alternative modes [39]. However, a poorly functioning intersection will reduce the benefits of the road diet treatment [12] [22] [43] [44]. In Tennessee, a stringent threshold of 3,000 ADT is identified as the maximum appropriate for a street for intersecting a road diet candidate corridor [10] [16], while Lyles et al set a threshold of 1,000 to 1,500 vehicles per hour entering an intersection at peak or 10,000 ADT as likely to result in poor road diet performance for a three-lane section. Stamatiadis and Kirk [45], however, suggest opportunity for success based on simulation studies with additional in-depth evaluation on intersecting street ADTs up to 23,000. Where possible, intersections with existing congestion issues should be mitigated prior to road diet implementation [46]. Intersection analyses or simulations may, however, be hindered by a lack of ADT data for intersecting streets, representing a challenge in practice [20].

Turning volumes are another key component of intersection analysis, particularly left-turn volumes and percentages [45]. Intersections with a high volume of left-turning vehicles may experience congestion following road diet treatments, even as reductions in queuing are observed for lower-volume cases, generally due to the separation of left-turning traffic and by improving sight distances [1] [16] [47] [48].

Signal timing, coordination, and spacing strategies can be employed to mitigate capacity impacts [1] [4] [6] [18] [40] [41] [46] [47], with a typical goal of maintaining LOS D or better at signalized intersections [5]. A “green wave” approach to coordinating signal timing to minimize queuing, with longer cycles in the busiest areas, can be deployed during peak periods to mitigate delay [23].

In some cases, maintaining the original number of lane widths at intersections may be necessary to maintain capacity [22] [29] [49], This can potentially be achieved, where appropriate design vehicle and large vehicle volumes do not contraindicate, by reducing lane widths to create additional turn lane capacity at intersections, as documented in Delaware [26]. Valenca et al. [35] advocate considering dynamic space allocation at intersections when needed (e.g., using parking lanes as turn lanes during peak periods). Importantly, however, transition zones, such as from four lanes to three lanes, increase the likelihood of rear-end crashes [50], while an increased number of lanes at an intersection in general is likely to reduce the crash reduction benefits of the project overall [51].

Alternatively, roundabouts may be included as an integral component of road diet projects, in order to eliminate the need for a two-way left-turn lane and free up space for other uses without sacrificing intersection performance [1] [22] [52] [53]. In some cases, cost savings and operational improvements at intersections may be realized by the inclusion of median pedestrian refuge islands, which can mitigate the need for dedicated pedestrian signals and phases [1].

Access, intersection, signal, and/or driveway density is also a key feasibility factor [1] [29] [54] [55]. Stamatiadis and Kirk [45] suggest that where there are 85 or more access points per mile, a non-traversable median and turn restrictions are recommended. Offset minor streets at intersections can also be a challenge, addressed through intersection realignment or access restriction (e.g., right turns only) [29].

Public Support

Local support is critical for project approval and success [1] [6] [10] [16] [35] [41]. Significant time may need to be allocated to allow room for education, input, and development of understanding and ownership in the community [51]. In cases where public opposition is encountered, hybrid or partial road diet approaches may be employed (e.g., retaining four-lane sections at key locations) [56]. Pilot projects or projects with a set trial period (e.g., one to three years for projects involving signage and pavement markings only) are widely suggested to gauge public support and provide for the evaluation and mitigation of any adverse impacts [4] [32] [57]. If local reticence continues, trial projects that include full evaluation studies may be suggested [58].

Conversely, proactive local support (e.g., calls for safety improvements on pedestrian corridors) can also be key factors in determining project feasibility [31]. Post-project assessments on road diets impacting large roadways have found high user satisfaction and no impacts or positive impacts [21]. In some cases, initial public opposition was reversed following successful project implementation [44].

Evaluation of local plan documents, especially active transportation or bike plans, travel demand models, and adopted goals, is recommended as an initial screening step to gauge local interest [1] [3] [4] [27] [30] [37]. Past experience suggests that robust public outreach is needed, including interactive public workshops, transparent sharing of traffic study results, communication of safety benefits, and potentially a phased implementation approach [36] [46] [56].

Other Feasibility Factors

A few additional special cases emerged in the literature that warrant further analysis, if applicable. These include:

- **Interstate diversion/freeway emergency routes:** Routes with these designations may be unsuitable candidates, particularly if needed for these purposes frequently [6] [16].
- **Evacuation routes, disaster-prone areas, major events or tourist attractions:** Constraints associated with these uses may be mitigated by leaving the paved width of the roadway the same so that it may be used in an emergency or special event, while providing alternate functionality (e.g., bike lane, buffer, or shoulder) otherwise [4].
- **Areas with significant grade issues [1].**
- **Federal/state funding eligibility issues:** In some cases, functional class may change as a result of lane reductions, which may affect federal funding eligibility [4] [6] [21]. Alternatively, in some states, funding is linked to lane miles for motor vehicle traffic only, so eliminating lanes may result in reductions in available maintenance funds [1].
- **Utility interference:** If a project includes curb realignment, sidewalk widening, landscaping, etc., impacts to utility infrastructure and/or lighting will be required [4].

Opportunity Factors

Opportunity analysis assesses whether a state stands to substantially benefit from implementing a road diet on a given roadway segment or corridor. Promoting multimodal travel (e.g., walking and bicycling) and reducing traffic crashes that involve vulnerable road users are among the most frequently reported benefits of road diet projects in the existing literature [52]. This section discusses additional benefits associated with road diet implementation.

On-Street Parking

Road diet treatments may result in increased, decreased, or unchanged on-street parking levels. Where travel lanes are eliminated or lane widths are reduced, recovered space may be repurposed to provide additional on-street parking [13] [26] [45] [58] [59]. However, the provision of on-street parking is rarely the primary motivation for implementing a road diet project [41].

The addition of on-street parking, whether parallel or diagonal, where it did not previously exist can function as a traffic calming measure and improve pedestrian comfort by providing a buffer from moving vehicles [4] [44] [45] [50]. At the same time, parking maneuvers may have a greater impact on traffic operations in a three-lane configuration [1] [41] [53]. Importantly, as the Florida Department of Transportation [4] notes, the provision of free on-street parking can induce both driving and parking demand, whereas complementary investments in pedestrian and bicycle infrastructure may help offset this effect. Requirements for state or local maintenance agreements may also influence decisions regarding the inclusion of on-street parking along a corridor [6].

In other cases, road diet projects may replace existing parking lanes with turn lanes, bicycle lanes, or other roadway uses [16]. Any reduction in parking supply is likely to encounter public resistance [4] [27] [51]. Dynamic parking strategies, such as prohibiting parking during peak periods, can help maintain roadway capacity when demand is highest [4] [35] [36].

Evaluating parking utilization rates before and after road diet implementation is recommended to assess the efficient use of public space and to identify potential operational friction associated with parking maneuvers [4] [53]. Several case studies have reported increased utilization of on-street parking following road diet treatments [50]. Moreover, the presence or absence of on-street parking is an important consideration in the calculation of crash modification factors for road diet projects, as on-street parking has been associated with higher crash frequencies in some contexts [20] [49].

The style and design of parking is also important; where unprotected bicycle lanes are included as part of a roadway reconfiguration, back-in angle parking is recommended to reduce conflict [44]. In general, angled parking may be better suited to low-speed, low-volume commercial streets [4], while pavement markings can be spaced to facilitate quick entry and exit for parallel parking at the expense of reducing the total number of parking spots available [29]. Alternating parking from one side of the street to the other can magnify traffic calming effects [25].

Speeding Reduction

It is important to note that most roadway reconfigurations of all types aim to reduce speeding while maintaining or improving traffic flow [11] [24] [46] [54] [56]. This may be achieved through lane eliminations that reduce the opportunity for high-speed differentials, by narrowing lanes, and by implementing other traffic calming techniques such as speed humps or curb extensions.

Reduced mean travel speeds are broadly documented as a benefit of road diet implementation [12] [13] [16] [31] [36] [55] [60] [61] [62]. The 85th percentile travel speed reduction can be substantial (e.g., 18 to 24%), as documented in case studies conducted in Seattle [33]. However, several researchers note that observed or simulated impacts on overall speed and/or 85th percentile speed more often tend to be modest (i.e., 5 mph or less) and often not statistically significant [4] [18] [24] [27] [44] [45] [58] [63]. Inevitably, even slight reductions in average speed can lead to some degree of travel delay. However, this may be considered an intended outcome of traffic calming, rather than a negative impact [23] [30] [41] [47].

More critically, reductions in high-risk speeding above the posted limit are also documented, in some cases dramatically [18] [26] [29] [50] [56] [64]. A large set of case studies in multiple states indicated that excessive speeding was reduced by 60 to 70% following 4-3 lane road diet conversions, even as overall vehicle speeds were only reduced by approximately 5 mph [29]. In San Jose, Nixon et al. [32] documented a 60% reduction in vehicles traveling more than 10 mph over the speed limit; they also found, however, an increase in egregious speeding on adjacent streets. Aryal [24] notes that changes in excessive speed are a better metric for evaluating project impact rather than average or 85th percentile speed.

Reductions in speed differentials and variability are another important indicator of road diet benefits, as more uniform speeds reduce crash likelihood [1] [12] [28] [35] [36] [42] [46] [56]. Where roadways are converted to a single lane in each direction, the prevailing speed is set by drivers respecting the speed limit, which in turn improves overall traffic flow [20] [41] [58]. Meanwhile, potential illegal passing maneuvers using the center turn lane can be mitigated by strategic use of raised medians and plantings [7]. On the other hand, Knapp and Giese [29] caution that slow-moving or frequently stopped vehicles can have a critical impact on traffic flow and roadway function following a road diet.

Evidence suggests that narrowing lanes from 12 to 10 ft. does not result in significant negative safety impacts in most urban and suburban conditions. Such treatments tend to reduce average speed, thereby lowering crash severity when collisions do occur [3] and improving vulnerable road user safety [49]. Case studies in Utah documented a 1 mph reduction in typical travel speeds associated with a 1-ft. lane narrowing, while noting that additional treatments such as horizontal or vertical deflection and tree planting can be added to achieve more substantial speed reductions [26]. Ewing et al. also observed that using changes in lane width to signal a shift in context (e.g., to more intensive land uses and greater pedestrian expectations) can help indicate to drivers that they should slow down. Additionally, more substantial traffic calming effects associated with lane width

reductions may be anticipated on state or U.S. routes in smaller urban areas with moderate ADT, rather than in central cities where speeds tend to be lower already [26].

Crash Reduction

FHWA embraces road diets as an important strategy for crash reduction, formally identifying them as a Proven Safety Countermeasure, by facilitating research on evaluating road diet impacts on crash reduction [12] and compiling evidence from case studies to explain how road diets can help with crash reduction [1] [58]. FHWA also provides guidance regarding how to incorporate data-driven safety analysis in road diet projects [13]. The Highway Safety Manual cites a 29% expected crash reduction and associated crash modification factors (CMF) of 0.71 for road diet treatments [11] [52].

In addition to reducing total crashes, the FHWA Safe System approach and most state and local safety initiatives prioritize reducing injury and fatal crashes. Existing evidence suggests that road diets are a highly effective tool for injury reduction, with total injury crashes reduced by 26 to 100% [48] following implementation [16]. Lim and Fontaine's analysis [20] indicated a CMF of 0.41 for fatal and injury crashes for road diet projects overall, representing a 59% reduction. Their follow-up study even found that the CMFs calculated specifically for signalized intersections exceed the overall CMF values [42].

The safety benefits of road diets tend to be concentrated around specific types of crashes: (1) those involving vulnerable road users (e.g., pedestrians and bicyclists); (2) crashes related to turning conflicts (e.g., left turn/angle crashes and rear-end crashes); and (3) lane changes (e.g., sideswipe crashes) [52].

Pedestrian safety is improved by reduced overall exposure facilitated by smaller crossing distances and refuge islands, as well as the reduction of multiple threat crashes where corridors are reduced to one lane in each direction [4]. Additionally, researchers cite a decrease in unsafe pedestrian behaviors (e.g., mid-block crossings) following road diet treatments, contributing to improved outcomes [41]. Safety for bicyclists can also improve, particularly where road diets enable installation of dedicated or protected bikeways [1] [4] [23] [40] [41] [45], which reduces conflicts with motor vehicles and prevents sidewalk riding [4] [41].

Reducing left-turn conflicts is often a key goal and outcome of a road diet project [12] [13] [20] [21] [27] [28] [41] [42] [45] [46] [50] [63] [65]. In addition to mitigating left-turn conflicts, typically by providing a turn lane and/or median, road diets can reduce angle crashes from side-street traffic [1]. For example, the Florida Department of Transportation [4] reports a 80% reduction of pedestrian crashes and a 56% reduction in angle crashes overall.

Some studies indicate fewer crashes with fixed, roadside objects due to increased buffers [30] [36], while head-on crashes may also be addressed through the provision of a center turn lane and/or median [22] [30]. Specific elements that may be implemented to complement road diets, meanwhile, can further enhance safety benefits. For example, Williams [53] observed the highest rates of crash reductions in locations where single-lane roundabouts were installed as part of road diet projects.

In some cases, crash reduction has been found to be particularly impactful in suburban areas compared to urban corridors [16], or in high ADT corridors [17]. In general, the benefits of reduced injury crashes tend to exceed the total crash reduction [16] [20] [40] [53] [55].

Some studies have focused on behavioral outcomes related to road diets for specific vulnerable groups, such as senior adult drivers [57] [62], with Michigan reporting a 37% reduction in injury crashes involving such drivers. Crashes involving young drivers may also be positively impacted. As Knapp et al. [1] note, any location where crashes of these types or involving these road users occur at a rate greater than average for their functional class may be a strong candidate for a road diet treatment.

Access Management

Road diets can be an important component of access management strategies, particularly through the implementation of raised or landscaped medians that manage mid-block access points and constrain left-turn locations [12] [17] [20] [61] [62]. Specific treatments such as partial median U-turns (MUTs) and right-in-right-out roadway configurations can be applied to road diet corridors to further manage access and mitigate conflicts [22]. In lieu of two-way left turn lanes, Williams [53] suggests that roundabouts, which facilitate the elimination of left turns entirely, may be an even more effective strategy. Additionally, road diets may enhance access to and from side streets by improving sight distances, slowing speeds, etc. [13] [47].

As discussed above, reductions in left-turn crashes are a typical outcome of implementation, complementing other efforts to reduce access conflicts. Excessive access points, in turn, may reduce the measurable effect of the two-way center turn lane, as turning movements can mean inside lanes function as a de facto turn lane already [16] [22]. On the other hand, dramatic reductions in driveways may result in a greater need for traffic control due to higher volumes at consolidated access points [4]. Dynamic access control mechanisms based on demand may also be considered if access needs fluctuate [35]. Consideration of opportunities to reduce driveways, where necessary, should be a component of road diet planning and implementation [4] [46].

Additionally, road diets can improve multimodal access and have been shown to lead to greater pedestrian activity [24] [30] [32], which may help mitigate business owner concerns about access changes for motor vehicles [36] [44].

Sight Distance and Visibility

A key benefit of many road diet treatments is improved sight distance/sight triangles and visibility, both for turning vehicles and for vulnerable road users, which is key to reducing crash incidence [28] [46] [47] [61].

Turn lanes and medians significantly improve visibility of and for turning vehicles [18] [44] [45], although for larger roadways, multiple travel lanes in each direction mean some visibility issues persist [21]. Benefits are particularly notable where there are mid-block left turns into driveways, changes to parking configuration, pedestrian crossings, or transit stops [1].

Reducing lane widths and adding bike lanes improves visibility [4] [36] [50] [57], as can projects involving parking removal [25]. Pedestrian improvements associated with road diet projects, green infrastructure, or transit-supportive features (e.g., dedicated transit lanes or bus islands) can also improve sight distances, although these features can also create visual obstructions if not planned properly [4] [43]. Conversely, projects that propose the addition of on-street parking or complementary roadway reconfiguration elements, such as roundabouts, may reduce sight distances and must be evaluated carefully [6] [53].

Other Benefits

The principal implicit benefit of implementing a road diet is the low-cost accommodation of people walking and bicycling. In addition to addressing gaps in facility networks, road diets may reduce operational delays for bicycles [66].

Comprehensive analyses of the economic impacts of road diets are underdeveloped [24] [28]. However, researchers at the University of Tennessee [24] found that road diet projects could increase land value at up to five times the rate of the city overall, while Burden and Lagerway [36] cite economic impacts, specifically new residential and commercial development and increasing property values, from a variety of U.S. and Canadian case study cities. Ennis [67] described positive impacts on retailers in Seattle following road diets due to lower speeds, easier parking, better store access, and more walkability. Aesthetic improvements made during road diet projects (e.g., increased greenery, stormwater infrastructure, addition of medians, etc.) can also support community, environmental, and economic goals [66].

Meanwhile, incorporating road diets into preservation programs can significantly reduce the cost of creating connected networks while completing scheduled road resurfacing work [7] [25]. In Florida, as in many states, road diets can be considered as part of basic resurfacing projects without design exceptions, other than ADA curb ramps [4] [41]. However, not all state DOTs have realized this cost-benefit opportunity and taken integration actions in practice [8]. Road diets could even be considered during bridge preservation for operation excellence [9]. All the potential benefits underscore the need to consider road diets more systematically to advance policy development in Louisiana.

Louisiana DOTD Practice Review

Summary of Current DOTD Practice on Road Diets

A review of Louisiana Department of Transportation and Development (DOTD) manuals, policies, and design guidance indicates that while road diets are acknowledged as a potential tool, they are not governed by a dedicated, formalized evaluation framework. Instead, considerations relevant to road diet feasibility are embedded across multiple documents related to roadway design, traffic engineering, safety analysis, and project delivery.

Key documents reviewed for content relevant to the key dimensions of road diet planning and analysis (i.e., volume/capacity, roadway element widths, and feasibility and opportunity factors discussed in the literature review above) include:

- DOTD Complete Streets Policy
- DOTD Road Design Manual
- DOTD Engineering Directives and Standards Manual (EDSM)
- DOTD Traffic Engineering Manual
- DOTD Traffic Signal Manual
- DOTD Project Delivery Manual
- DOTD Minimum Design Guidelines
- DOTD Pavement PRR Minimum Design Guidelines
- DOTD 3R Minimum Design Guidelines

- 2026 Louisiana Standard Specifications for Roads and Bridges

Additional documents reviewed, which were found not to have any content responsive to questions pertaining to roadway reconfiguration and/or road diets, include:

- DOTD Project Manager's Manual
- DOTD Stage 0: Manual of Standard Practice
- DOTD Stage 1: Manual of Standard Practice
- DOTD Construction Administration Manual
- Construction Plans QC-QA Manual
- DOTD Pavement Markings Manual

Policy Context and Multimodal Considerations

DOTD's Complete Streets Policy [68] establishes the strongest institutional basis for implementing road diets. The policy emphasizes a context-sensitive approach to balancing mobility, access, and safety for all road users, and explicitly identifies strategies such as lane narrowing, restriping, and roadway reconfiguration as appropriate, particularly for preservation, rehabilitation, and operations projects that do not require major reconstruction. This creates a clear policy pathway for road diets, especially where multimodal improvements can be achieved within the existing right-of-way.

Traffic Volumes and Capacity

Current practice emphasizes forecasting and accommodating future traffic demand. Roadway design is typically based on a 20-year design horizon, with Level of Service (LOS) C as the general minimum target, though lower LOS may be accepted in constrained contexts, such as "urban highways with highly developed land use" [69]. Notably, the road design manual observes that "traffic volumes on a highway typically increase over time," which is not universally true, particularly in communities with shrinking populations or shifting travel patterns.

DOTD relies on standard metrics such as average daily traffic (ADT), design hourly volume (DHV), directional distribution, and vehicle composition [69]. For operational strategies, signal timing adjustments are identified as a tool to manage flow and balance competing user needs while maintaining or improving capacity [70]. Analytical guidance for capacity and LOS is largely deferred to the Highway Capacity Manual. However, no

specific thresholds or evaluation procedures are provided for determining when lane reductions are appropriate.

Roadway Configuration and Cross-Section Design

Design decisions related to lane widths and cross-sectional elements are guided by functional classification, context (urban vs. rural), design speed, traffic volume, and truck percentages. While minimum and preferred lane widths are defined, with flexibility down to 9 to 10 ft. in low-volume urban contexts, these standards are not explicitly tied to reallocation strategies such as road diets [71] [72]. The guidance does, however, support elements commonly associated with road diets, including three-lane cross-sections with two-way left-turn lanes, medians for access management and pedestrian refuge, and bicycle and pedestrian facilities [69].

On-street parking is generally discouraged on arterial roadways due to its impact on capacity and safety, though exceptions are allowed under specific conditions [69]. Similarly, medians and turn lanes are emphasized for their safety and operational benefits, aligning with common road diet design treatments [69].

Safety Considerations

Safety analysis is a required component of typical project development. DOTD guidance emphasizes the importance of crash rates and crash types in determining appropriate countermeasures [69]. While this provides a strong foundation for identifying corridors where road diets may be beneficial, there is no explicit link between specific crash patterns and roadway reconfiguration strategies.

Project Development and Implementation

The project delivery process does not explicitly address road diets outside of temporary lane reductions during construction [73]. Projects that do not add capacity are generally treated as categorical exclusions for environmental review, which may simplify implementation of reconfiguration projects relative to new construction projects [73]. Engineering judgment plays a central role in design decisions, supported by traffic, speed, and safety data, and the Traffic Engineering Manual describes processes for documenting this judgment where appropriate. However, road diets are not specifically identified as an example of a decision that would require a formal engineering study or report [74].

Constraints and Additional Considerations

Environmental compatibility and context-sensitive design are emphasized broadly, encouraging designs that minimize impacts and enhance surrounding areas. Utility relocation is noted as a frequent constraint, particularly for projects that would require physical changes beyond restriping [69], highlighting the potential value for

reconfigurations that work within the extant paved roadway to achieve multimodal or other highway performance goals.

Key Gap in Current Practice

Although DOTD has implemented road diet projects and relevant considerations are distributed across existing guidance, there is no consolidated policy or technical guidance that defines when and where road diets should be considered, how to evaluate their feasibility, or how they compare to traditional design approaches. As a result, implementation depends heavily on project-specific engineering judgment rather than a standardized, performance-based framework, which could facilitate the proactive identification of strong candidates for reconfiguration.

Case Study: Tulane Avenue Road Diet, New Orleans

The Tulane Avenue corridor provides a representative example of a DOTD-led road diet project developed through a structured feasibility analysis. A Stage 0 study conducted in 2011 by the New Orleans Regional Planning Commission evaluated the segment between Claiborne Avenue and Carrollton Avenue, focusing on aligning roadway design with evolving land use and multimodal needs.

The study explicitly framed lane reduction as a strategy to "support future traffic demand and adjacent land use while enhancing pedestrian and transit system operations." Analysis was informed by VISSIM traffic simulation modeling and a traffic impact analysis associated with the nearby Veterans Affairs and University Medical Center developments. Key data inputs included right-of-way width, operating speeds, land use context, and recent development activity.

The proposed design reduced the roadway from six to four lanes while incorporating operational and safety enhancements intended to offset potential capacity impacts. These included slightly wider travel lanes, the addition of dedicated turn lanes at key intersections, expanded medians to facilitate left turns, and access management strategies. The plan also introduced bicycle lanes and a range of streetscape and multimodal improvements, such as curb extensions and pedestrian-oriented signal upgrades.

A central theme of the study was the role of turn lanes and intersection design in maintaining traffic flow under a reduced lane configuration. The project also built on prior corridor visioning efforts, illustrating how road diets within DOTD practice may emerge from longer-term planning processes rather than standalone design decisions.

Overall, the Tulane Avenue example, which was substantively completed in 2017, demonstrates that in the absence of formalized statewide guidance, successful road diet

implementation within DOTD relies on corridor-specific analysis, integration with land use and redevelopment context, and targeted operational improvements to support reconfigured cross sections.

Case Study: Government Street Road Diet, Baton Rouge

The Government Street corridor in Baton Rouge represents one of DOTD's most prominent and fully implemented road diet projects, illustrating how safety, multimodal goals, and corridor revitalization can be integrated within a state-led project, and in conjunction with the Road Transfer Program. The project, initiated in the early 2010s and completed in 2021, covered approximately 4.2 miles from East Boulevard to Lobdell Avenue.

The project originated from identified safety and operational issues along an existing four-lane undivided roadway. Crash analysis conducted as part of the feasibility study found rates significantly higher than statewide averages, with approximately 800 crashes recorded over a three-year period. These issues were compounded by frequent turning movements into numerous driveways and side streets, which reduced effective capacity by blocking through lanes.

In response, DOTD advanced a road diet design that reduced the corridor from four to three lanes, with one lane in each direction and a center two-way left-turn lane. This configuration was explicitly identified to improve both safety and operational performance by reducing conflict points and removing turning vehicles from through traffic.

The reallocation of roadway space enabled a range of multimodal and Complete Streets improvements. These included bicycle lanes in both directions for most of the corridor, ADA-compliant sidewalks, streetscape enhancements, and raised or landscaped medians. Intersection improvements were also a key component, most notably the replacement of a signalized intersection at Lobdell Avenue with a roundabout to improve traffic flow and reduce delays.

The project was framed not only as a safety improvement but also as a strategy to support corridor livability and economic revitalization. Post-implementation outcomes suggest meaningful safety benefits, with reported crashes declining substantially compared to both historical conditions and citywide trends [75]. The corridor has also experienced increased economic activity and reinvestment, reflecting the broader place-making objectives of the redesign.

Overall, the Government Street project demonstrates a data-driven approach to road diet implementation within DOTD, grounded in safety analysis, corridor context, and multimodal objectives. It also illustrates how road diets in Louisiana can be delivered as part of broader Complete Streets initiatives, particularly related to opportunities to reimagine a corridor during planned transfers of roadway segments from state to local ownership.

Considered together, the Tulane Avenue and Government Street projects illustrate two complementary pathways for implementing road diets within DOTD practice. Tulane Avenue reflects a planning- and modeling-driven approach, in which lane reductions were evaluated proactively in response to anticipated land use changes and institutional development, with a strong emphasis on maintaining or improving operations through simulation and intersection design. In contrast, Government Street represents a more safety-driven, reactive approach, where a history of elevated crash rates and operational friction from turning movements motivated a reconfiguration to a three-lane cross section, in conjunction with the opportunity presented by a planned transfer to local control.

Both cases highlight the importance of corridor-specific analysis, multimodal objectives, and the strategic use of turn lanes and access management to maintain performance under reduced lane configurations. At the same time, they reinforce the broader finding that, in the absence of formal statewide guidance, road diet implementation within DOTD is shaped by project context, available data, and engineering judgment rather than standardized criteria, which could support more routine analysis of suitable opportunities for reconfiguration projects.

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Objective

This research investigated opportunities for and the feasibility of implementing road diets statewide to help Louisiana develop a network accommodating non-motorized travel and meet other potential needs, such as parking and speed management.

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Scope

The feasibility and opportunity evaluation was completed for the entire state of Louisiana, where sufficient data exists. It is noted that the research relied on roadway geometry data collected by the Automated Road Analyzer (ARAN) and published in 2020 for methodological demonstration. Future projects may want to use more recent data to obtain more robust results. Additionally, the evaluation was conducted at the planning level rather than the design or operational level to provide a preliminary overview of potential areas of interest for project identification and prioritization. Follow-up analysis may be needed at the project level, including additional data collection, to support in-depth evaluation, verify feasibility, and develop specific design alternatives for roadway reconfiguration.

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Methodology

This section illustrates the data collection and fusion procedure. Given current data availability, a screening framework was developed to maximize data use and output results. The framework considered both feasibility and opportunity factors to provide more information to assist evaluations.

Data Collection

Table 1 summarizes the datasets available statewide for the feasibility and opportunity factors discussed in the previous section. Data accuracy and recency are particularly critical for statewide screening efforts, as decision-making is often sensitive to relatively small differences in geometric and operational variables [42] [66]. The primary data sources used in this screening were collected through the automated road analyzer (ARAN) and accessed through the Louisiana Department of Transportation and Development (DOTD) Geospatial Gateway [76], which were used to characterize roadway geometry. The most recent update to the ARAN dataset occurred in 2020. A non-interstate road network layer with 0.1-mi. segments was first developed based on the ARAN dataset to serve as the master database for data fusion. ArcGIS Pro was used to organize data featuring different roadway geometries, stored in different formats (e.g., shapefiles and Excel tables) to maintain consistency. Python was also used to automate and speed up tasks such as filtering, joining tables, and calculating values, given the large number of segments in this statewide screening work (~1.8 million records).

In feasibility analysis, traffic volume data and K-factors were obtained from DOTD's Maps LA platform [77]. AADT values used in this analysis are largely model-estimated rather than directly measured, as permanent or short-term count stations do not cover every segment in the network. This may introduce some estimation error, especially in areas with sparse count coverage [78]. Where data completeness was limited, supplementary information was extracted from other sources to improve data completeness. For example, the "speed limit signs" layer has a data completeness rate of ~9%. For segments lacking speed limit data, the "max speed" layer from OpenStreetMap was spatially joined with the 0.1-mi. layer. Additionally, a default speed limit of 35 mph or less was assigned to local streets without speed limit data.

In opportunity analysis, parking lot and restaurant polygon datasets are provided by SafeGraph and accessed through the Dewey data platform [79] to assist on-street parking evaluation. The National Performance Management Research Data Set (NPMRDS) is

used for speeding analysis, as it provides longitudinal speed observations over time (e.g., 1.2 billion records from 2022 to 2024) [43]. However, NPMRDS road segments primarily cover major highways (e.g., arterials and collectors), which restricts its spatial coverage. Together with the speed limit data constraints, speeding analysis could only be conducted for 4.67% of the 0.1-mi. non-interstate roadway segments (i.e., 87,323 total segments). For crash analysis, crash records from the corresponding three years (i.e., 2022 to 2024) were collected from Louisiana's Center for Analytics & Research in Transportation Safety (CARTS) database [80]. These point features were spatially joined to the 0.1-mi. non-interstate roadway segments by using a 0.1-mi. buffer to account for geocoding uncertainty and capture corridor-level crash patterns. The crash data included 253,664 road diet-relevant crashes with a 99.6% geocoding success rate. Only crash types typically reduced by road diets were included in the analysis: rear-end (132,219 records), same-direction sideswipe (61,635), angle crashes (39,550), opposite-direction sideswipe (7,762), and head-on collisions (6,525). Additionally, crashes involving vulnerable road users (e.g., pedestrians and bicyclists) have been considered in the authors' previous work and incorporated in the Active Transportation Investment Index. Therefore, these crashes are not considered here to avoid repeated evaluation.

Table 1. Data sources and completeness by 0.1-mi. non-interstate road segment

Data	Data source and format	Feature type	Used in…	Completeness %
AADT	Maps DOTD LA gov (GIS Shapefile)	Line	Feasibility	99.9
Active Transportation Investment Index	Louisiana Active Transportation Planning Dashboard (GIS Shapefile)	Line	Opportunity	100
Crash data	Louisiana CARTS database (.csv with longitude and latitude information)	Point	Opportunity	NA
Curb inside	DOTD Geospatial Gateway (GIS Shapefile)	Line	Feasibility	NA
Curb outside	DOTD Geospatial Gateway (GIS Shapefile)	Line	Feasibility	NA
DOTD LRSID non-interstate network	DOTD Geospatial Gateway (GIS Shapefile)	Line	Master database	100
Functional System, UrbanRural	DOTD Geospatial Gateway (GIS Shapefile)	Line	Feasibility	99.9
K factor	Maps DOTD LA gov (GIS Shapefile)	Line	Feasibility	99.9
Lane width	DOTD Geospatial Gateway (GIS Shapefile)	Line	Feasibility	20.22
Max Speed	Overpass turbo (GIS Shapefile)	Line	Feasibility & Opportunity	76.4
Medians	DOTD Geospatial Gateway (GIS Shapefile)	Line	Feasibility	NA
Number of lanes	DOTD Geospatial Gateway (GIS Shapefile)	Line	Feasibility	99.6
Parking lot	SafeGraph (.csv with longitude and latitude information)	Polygon	Opportunity	NA
Place geometries	SafeGraph	Polygon	Opportunity	NA

Data	Data source and format	Feature type	Used in…	Completeness %
Places (POI; Points of Interest)	SafeGraph (GIS Shapefile)	Point	Opportunity	NA
Public Private	DOTD Geospatial Gateway (GIS Shapefile)	Line	Feasibility	99.9
Road use, divided	DOTD Geospatial Gateway (GIS Shapefile)	Line	Feasibility	99.9
Shoulder inside	DOTD Geospatial Gateway (GIS Shapefile)	Line	Feasibility	NA
Shoulder outside	DOTD Geospatial Gateway (GIS Shapefile)	Line	Feasibility	NA
Sidewalk inside	DOTD Geospatial Gateway (GIS Shapefile)	Line	Feasibility	NA
Sidewalk outside	DOTD Geospatial Gateway (GIS Shapefile)	Line	Feasibility	NA
Speed limit	Max Speed + Speed limit signs	Line	Feasibility & Opportunity	78.98
Speed limit signs	DOTD Geospatial Gateway (GIS Shapefile)	Point	Feasibility & Opportunity	9.3
NPMRDS speed observations	NPMRDS	Table	Opportunity	2.48 (*)
Street parking	DOTD Geospatial Gateway (GIS Shapefile)	Line	Opportunity	NA
NPMRDS road segments	NPMRDS	Line	Opportunity	4.67 (*)
Transit routes	The authors' previous work	Line	Feasibility	NA
Truck routes	The authors' previous work and DOTD Geospatial Gateway (GIS Shapefile)	Line	Feasibility	NA
Turn lanes left	DOTD Geospatial Gateway (GIS Shapefile)	Line	Feasibility	NA

Note: "NA" means not applicable since not all the roads have curbs, medians, shoulders, etc. (*): NPMRDS road segments and speed observations are restrained due to its spatial coverage and data availability.

Feasibility and Opportunity Screening

Feasibility Evaluation Framework

Several cities have developed models or frameworks that combine multiple feasibility factors to support decision-making for road diet projects. In Seattle, a roadway evaluation model for four- and five-lane facilities incorporates average daily traffic (ADT), signal spacing, travel time or level of service (LOS), vehicles per hour, and left-turning volumes [34]. In Austin, the evaluation framework considers not only ADT, LOS, and intersection characteristics, but also crash history and public support, and it explicitly defines processes for public outreach and stakeholder engagement [18].

In this study, the researchers developed a data-driven decision-making framework to assess the viability of road diet conversions that is tailored to Louisiana's roadway characteristics and consistent with the Louisiana Department of Transportation and Development (DOTD) Minimum Design Guidelines [72]. Figure 1 presents the flowchart summarizing the overall screening framework.

Step 1: Non-interstate road segments were flagged with warning labels if they are divided roadways, designated truck or transit routes, or include a median.

Step 2: In lane reduction evaluation, the screening process began by excluding roadway segments that are generally unsuitable for road diets, such as one-way facilities and high-speed corridors (i.e., speed limit above 45 mph).

Step 3: Traffic volume then served as the primary screening factor for lane reduction scenarios (i.e., reducing the number of lanes) across all roadway segments. Segments were classified as feasible or non-feasible based on a threshold of 875 vehicles per peak hour per lane (vphpl). This threshold is consistent with recommendations from Iowa-based guidelines cited by FHWA and adopted in other agency guidance documents [58] [81] [82].

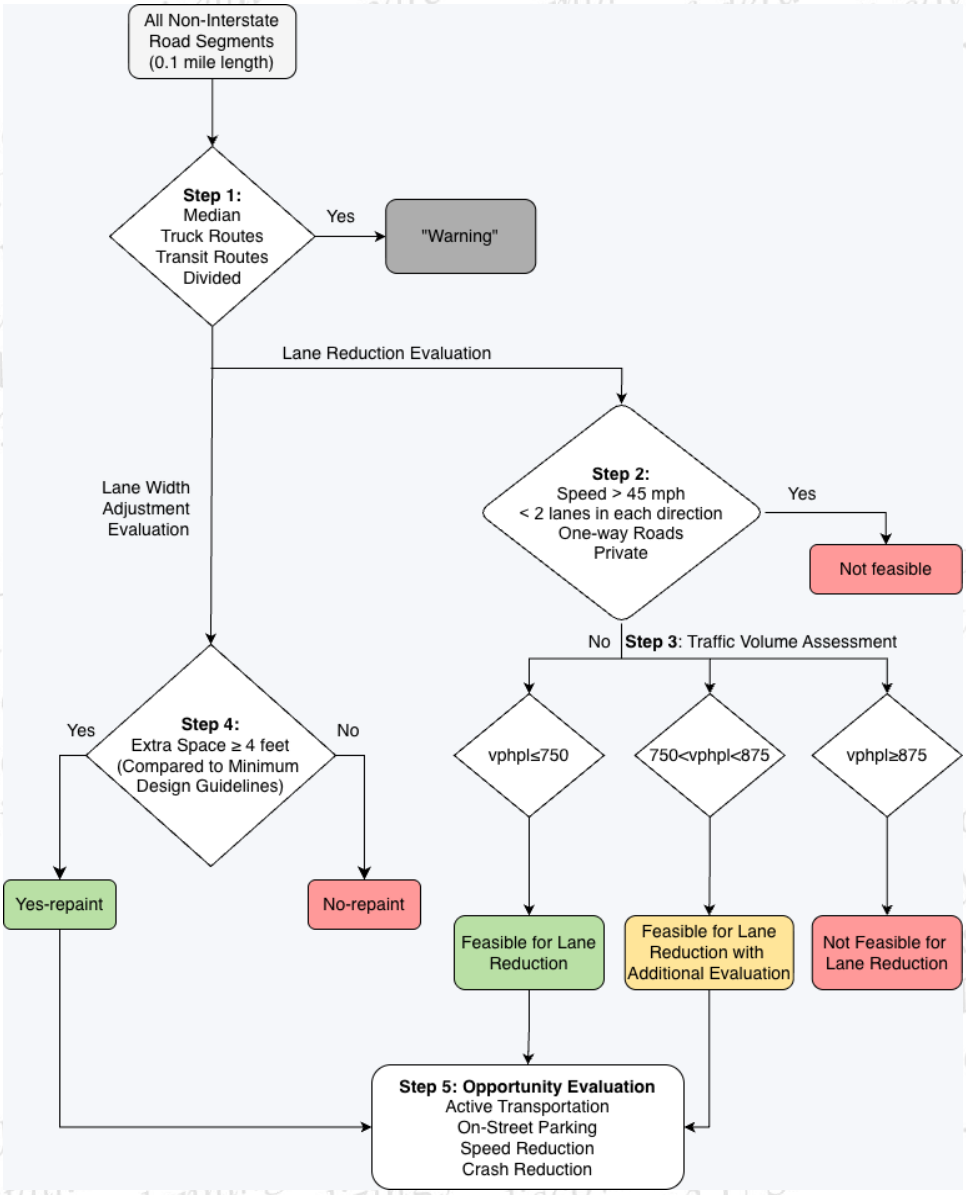
Step 4: In lane width adjustment (i.e., repaint), thresholds from DOTD's Minimum Design Guidelines were applied to evaluate whether lane width adjustments, defined as reducing lane width without changing the number of lanes, are feasible within the existing right-of-way [83]. These criteria include minimum allowable lane widths based on roadway functional classification and design speed, as well as required shoulder widths determined by the number of lanes, traffic volume (ADT), and urban versus rural context. These guidelines also specify minimum values for sidewalks, shoulders, bike lanes, cycle tracks, and sidepaths to satisfy Complete Streets policy requirements. Together, these thresholds ensure compliance with DOTD standards for safe and efficient roadway design.

The calculated minimum required width was then compared with the existing roadway segment width, which is derived from current lane widths, the number of existing lanes, and shoulder dimensions. Segments that exceeded the minimum required width by at least 4 ft., which is the width specified in the Minimum Design Guidelines for shoulders intended to serve bicycle and/or pedestrian activity in rural areas, were classified as "yes—repaint," indicating potential feasibility for implementation. When required data were unavailable at any stage of the process, this condition was recorded in a "missing data" field for secondary screening.

The proposed feasibility screening framework differs from those used in Seattle and Austin in that it explicitly quantifies surplus geometric width using design standards adopted by local agencies. This approach improves regulatory compliance and facilitates rapid implementation at scale. At the same time, the framework incorporates several common elements found in other models, such as ADT and K-factors, to estimate peak-hour, per-lane traffic volumes. As a result, the framework is particularly well-suited for statewide applications where consistent geometric data are available, even though it relies

on fewer subjective criteria. By contrast, the Seattle and Austin frameworks may be more appropriate for smaller-scale applications, as they place greater emphasis on detailed modeling tools (e.g., Synchro) and corridor-level LOS analysis.

Figure 1. Feasibility screening framework



Note: "vphpl" stands for vehicles per peak hour per lane.

Opportunity Evaluation Framework

As shown in Figure 1, opportunity was also evaluated to support project prioritization and design consideration (i.e., Step 5), such as the necessity of adding bike lanes, sidewalks, on-street parking, and safety improvements (i.e., crash/speeding reduction). This

approach provides a spatially explicit, quantitative assessment tool that aligns with actual road geometry and local standards.

The researchers' previous work has identified active transportation infrastructure needs across Louisiana [75] [84]. That analysis leveraged anonymized, continuously collected human mobility data from mobile devices and developed an active transportation mobility index to identify locations with high volumes of short-distance trips that could be shifted to active modes. Connectivity to existing pedestrian and bicycle infrastructure, safety, and equity-related factors were also incorporated into the index to derive an active transportation infrastructure investment potential score, providing multifaceted decision-making support. All indices and scores were generated at both the hexagon (0.1 km²) and roadway segment (0.1-mi.) levels, then mapped and published through an online dashboard for public access [85]. In the current screening framework, segments were classified as having First Priority for active transportation infrastructure investment when index values were positive and exceeded the 75th percentile threshold, and as Second Priority when index values were positive but below that threshold. The following discussion focuses on the evaluation of other opportunities conducted as part of the current study.

On-Street Parking

Comprehensive parking demand data at the segment level are rarely available for entire state networks. To approximate parking demand, the analysis used restaurant locations as a proxy, based on the premise that restaurants generate concentrated parking demand during peak hours and serve as reliable indicators of commercial activity intensity. Two datasets were obtained from the Dewey Data Platform [79]: point-of-interest (POI) information identifying restaurant locations and polygon geometries representing parking lot footprints across Louisiana. Restaurant floor area served as the demand metric, while total parking lot area within walking distance served as the supply metric. Urban planning literature commonly identifies 0.25 mi. (approximately 400 m) as a comfortable walking distance for accessing neighborhood amenities [86]. Therefore, a 0.25-mi. buffer was generated around each 0.1-mi. roadway segment to define reasonable walking distance catchment areas for both restaurants and parking facilities. The parking index (PI) was then calculated as the ratio of parking supply to demand using the following equation:

$$PI = \frac{Parking\ Area\ within\ the\ buffer}{Restaurant\ Floor\ Area\ within\ the\ same\ buffer} \quad [1]$$

This ratio provides a measure of parking availability relative to potential commercial activities. Values near zero indicate parking shortages, while higher values indicate an abundance of parking. Segments without restaurants within their buffer (1,432,452 segments, 76.7%) were excluded from parking priority classification because they lack

parking demand relevant to this analysis. Among the 435,828 segments with restaurants in their buffer zone, 424,212 (97.3%) had at least one parking facility, yielding computable parking index values for comparative analysis and prioritization. The parking index distribution exhibited severe right skewness (median = 16.17, Q1 = 6.57, Q3 = 38.22), with extreme outliers reaching values shown in Figure 2. These extreme values resulted from very small restaurant footprints (e.g., 0.01 m²) in the denominator, leading to inflated ratios even when modest parking areas were nearby. Such outliers affected only 0.05% of segments but rendered traditional mean-based statistics misleading (mean = 11.7 million, standard deviation = 11.8 million). Consequently, more robust statistics (e.g., median and interquartile range) were employed as more representative distribution measures in subsequent priority ranking. This threshold-based approach, commonly employed in accessibility studies and land use evaluations [86] [87], helps classify parking availability into three categories:

- **First Priority** (parking shortage, PI = 0): 11,616 segments (2.7% of segments with restaurants), representing locations with restaurants but no off-street parking facilities within walking distance
- **Second Priority** (limited parking, $0 < PI \leq Q1 = 6.57$): 106,054 segments (24.3%), representing locations with below-median off-street parking availability
- **Adequate parking** ($PI > Q1 = 6.57$): 318,158 segments (73.0%), representing locations with above-threshold off-street parking supply

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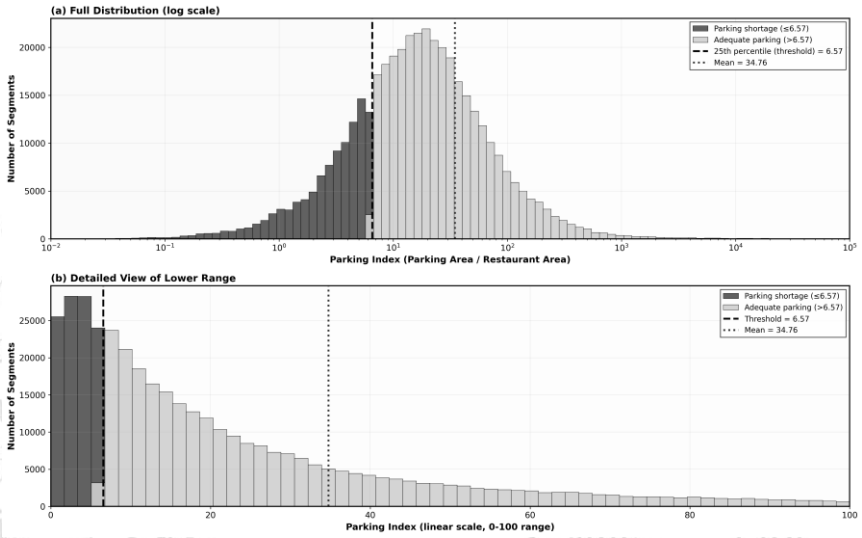
Figure 2. Parking opportunity index distribution for segments with restaurants: (a) full distribution, (b) detailed view of lower range



Note: Panel (a) shows the full distribution on a logarithmic scale with the 25th percentile threshold at 6.57 (dashed line) and median at 16.17 (dotted line). Bars in darker color indicate parking shortage (≤ 6.57), while bars in lighter color indicate adequate parking (> 6.57). Panel (b) provides a linear-scale detailed view of the 0-100 range where most segments cluster. The severe right-skew (mean = 35.95, IQR = 31.66) necessitated robust statistics and percentile-based threshold selection.

This classification provides a data-driven basis for identifying roadway segments where parking supply may be insufficient relative to demand from nearby restaurants. The approach offers a rapid and reproducible method for pinpointing locations where road diet interventions could support adjacent businesses (restaurants in the present analysis, but readily scalable to other land use categories where local demand is identified) by reallocating roadway space to improve parking access. Such reallocations are expected to contribute to local business revitalization [23] [37]. Notably, this analysis intentionally excludes segments with existing on-street parking, which should be considered when evaluating the need for additional parking relative to other potential uses of the public right-of-way. If a segment is identified as LR or LA feasible and has identified parking demand, it may be possible to reconfigure existing on-street parking to increase capacity and safety through geometric reconfiguration enabled by the reclaimed roadway space. As more communities aim to optimize land use efficiency and livability by reducing the availability of off-street parking required for new development, opportunities to ensure adequate supply through repurposing of excess roadway capacity represent one tool for balancing land use and transportation goals.

Speeding Reduction

Speeding was defined as observed speed more than 5 mph above the posted speed limit to provide a practical buffer for measurement uncertainty and minor exceedances. A 5 mph buffer is consistent with common practice in speed management, where mean speeds 5

mph or more over the posted limit are used to identify speeding problems, and with traffic safety research that often analyzes risk in 5 mph speed increments [88].

It was found that the speeding rate exhibited substantial year-to-year variation due to differences in probe vehicle coverage across years, changes in data quality, and temporal gaps in observations. Thus, the current study calculated weighted averages across three years (2022 to 2024) to obtain more stable estimates.

$$Speeding\ Rate = \sum \frac{\left(Speeding\ Rate_{year_i} \times Total\ Observations_{year_i}\right)}{\sum Total\ Observations_{year_i}} \quad [2]$$

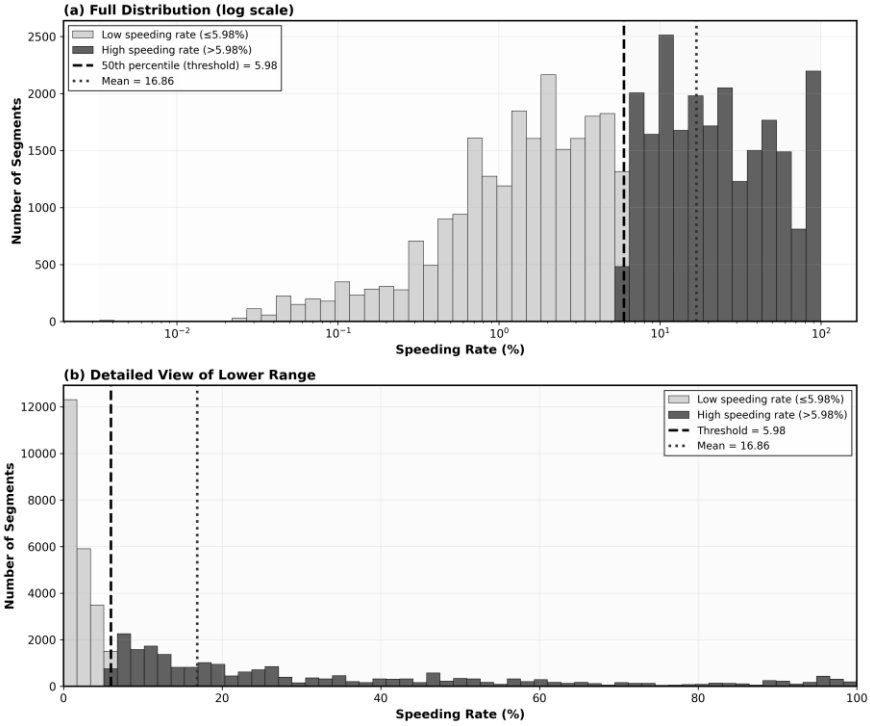
This weighting scheme assigns greater influence to years with more robust data collection, reducing bias from years with sparse observations. Years lacking any valid observations for a given segment were excluded from that segment's calculation (i.e., treated as missing data rather than zero speeding).

Speeding Data Coverage: The analysis focused on 146,377 arterial and collector segments. Through spatial matching with the NPMRDS network, 87,323 segments (59.7%) received TMC code assignments. However, not all segments with TMC codes had actual speed observations. Of the 87,323 segments with TMC assignments, 41,053 lacked speed data in all three years, likely due to insufficient probe vehicle coverage or temporal data gaps. The final dataset comprised 46,270 segments (31.6% of arterials/collectors) with sufficient observations to calculate weighted speeding rates from 2022 to 2024.

Speeding Rate Distribution and Priority Classification: Figure 3 shows the distribution of calculated speeding rates among these 46,270 segments. Using the median speeding rate (5.98%) as the classification threshold, these segments were categorized into priority levels based on speeding severity.

- **First Priority** (severe speeding concerns, SR > median = 5.98): 23,064 segments (15.76% of arterials and collectors)
- **Second Priority** (moderate speeding concerns, 0 < SR ≤ median = 5.98): 23,202 segments (15.85% of arterials and collectors)

Figure 3. Distribution of three-year weighted speeding rates: (a) full distribution, (b) detailed view of lower range



Note: Panel (a) shows the full distribution on a logarithmic scale with the median threshold at 5.98 (dashed line) and mean at 16.86 (dotted line). Bars in darker color indicate a higher speeding rate (≥ 5.98), while bars in lighter color indicate a lower speeding rate (0 < and ≤ 5.98). Panel (b) provides a linear-scale detailed view of the 0-100 range where most segments cluster. The severe right-skew (mean = 16.86) necessitated robust statistics and percentile-based threshold selection.

Crash Reduction

Road diet relevant crashes refer to front-to-front head-on crashes (code 200), front-to-rear crashes (code 300), sideswipe crashes in the same and opposite directions (codes 505 and 502), and various angle/left-turn crashes (codes 100, 101, 102, 500, 501) in this study. Road diet treatments are also associated with reductions in VRU crashes, which, for the purpose of this study, were considered through integration of the Active Transportation Investment Index, which includes crash history (discussed above). Rear-end crashes comprised the largest category (132,219 crashes, 52%), reflecting the dominance of stopped-vehicle conflicts that road diets address through dedicated left-turn lanes. This filtering ensured that priority classifications reflected crashes potentially preventable by road diet implementation rather than unrelated crash types. Raw crash counts may favor high-volume corridors, creating bias toward urban arterials. Thus, the standard FHWA

crash rate formula was used here to account for vehicle-miles traveled[1]. The following analysis examined all crash severities, focusing on injury and fatal crashes (i.e., K—Fatal, A—Suspected Serious Injury, B—Suspected Minor Injury, C—Possible Injury). Injury- and fatal-crash rates comprise approximately 24.3% of total crashes. This approach allows public agencies to prioritize based on both total crash frequency and severe outcomes.

The analysis employed positive-only median thresholds calculated among segments with non-zero crash rates. For all-crash rates, the median among the 480,129 segments with positive values was 3,345.21 crashes per 100M VMT. Based on this threshold, segments were classified as:

- **First Priority** (high crash risk, all-crash rate > median = 3,345.21 per 100M VMT): classifications identified 236,828 segments (12.68%, 13,767.6 mi.) as having elevated crash rates above the median
- **Second Priority** (moderate crash risk, 0 < all-crash rate ≤ median = 3,345.21 per 100M VMT): 243,301 segments (13.02%, 17,324.5 mi.)

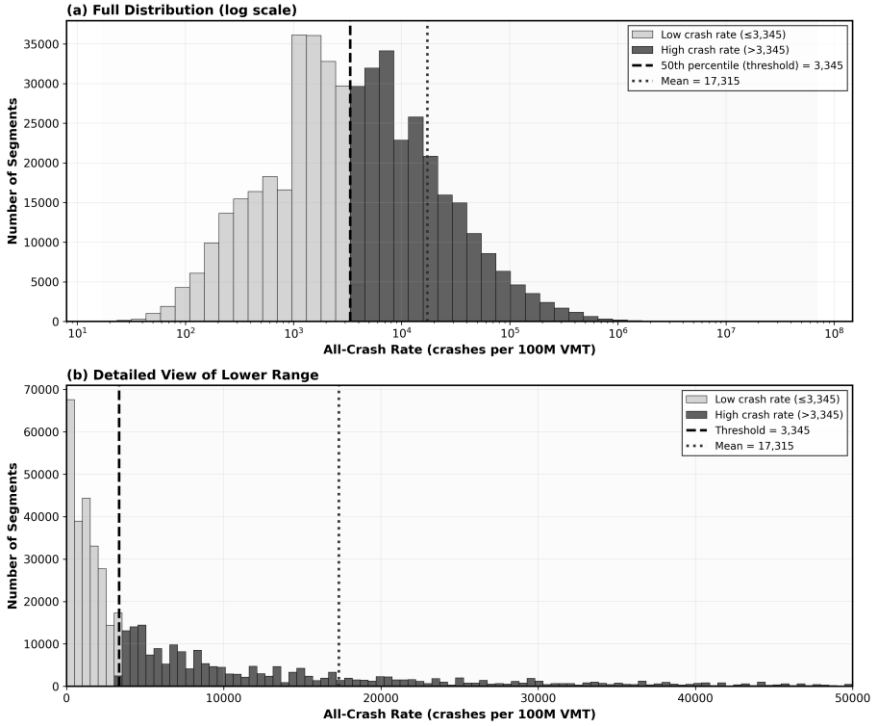
For injury/fatal-crash rates, the median among the 285,965 segments with positive values was 1,670.57 crashes per 100M VMT.

- **First Priority** (high crash severity, injury rate > median = 1,670.57 crashes per 100M VMT): classifications identified 142,978 segments (7.65%, 8,294.9 mi.) as having elevated injury crash rates above the median
- **Second Priority** (moderate crash severity, 0 < injury rate ≤ median = 1,670.57 per 100M VMT): Among all segments, 142,987 segments (7.65%, 10,073.9 mi.)

This percentile-based threshold approach divides crash-bearing segments into equal high- and moderate-risk groups while providing operational meaning (i.e., "above typical risk among segments with crashes"), robustness to outliers, and consistent methodology across all safety metrics. Figure 4 and Figure 5 illustrate the crash rate distributions among segments with non-zero values, confirming the appropriateness of median-based thresholds for right-skewed safety data.

[1] R = (C × 100,000,000) / (AADT × 365 × N × L), where C is crash count, AADT is annual average daily traffic, N is number of years (which is three in this study), and L is segment length in miles (which is 0.1 in this study).

Figure 4. Distribution of all-crash rates for road diet candidate segments: (a) full distribution, (b) detailed view of lower range



Note: Panel (a) shows the full distribution on a logarithmic scale with the median threshold at 3,345 (dashed line) and mean at 17,315 (dotted line). Bars in darker color indicate a higher crash rate (≥ 3,345), while bars in lighter color indicate a lower speeding rate (0 < and ≤ 3,345). Panel (b) provides a linear-scale detailed view of the 0-100 range where most segments cluster. The severe right-skew (mean = 17,315) necessitated robust statistics and percentile-based threshold selection.

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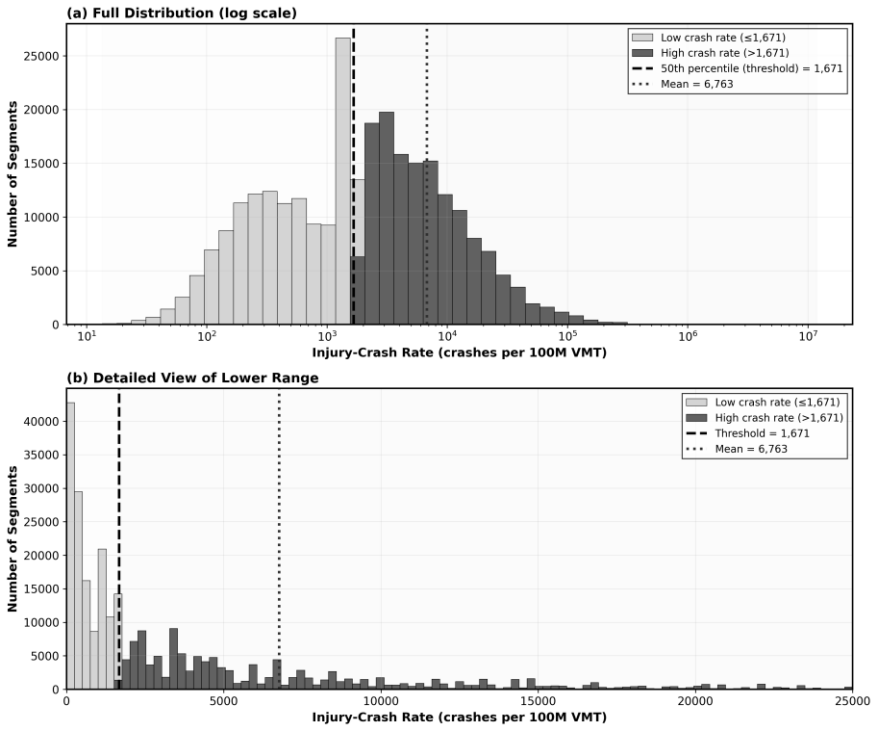
Figure 5. Distribution of injury and fatal crash rates for road diet candidate segments: (a) full distribution, (b) detailed view of lower range



Note: Panel (a) shows the full distribution on a logarithmic scale with the median threshold at 1,671 (dashed line) and mean at 6,763 (dotted line). Bars in darker color indicate a higher crash rate (> 1,671), while bars in lighter color indicate a lower speeding rate (≤ 1,671). Panel (b) provides a linear-scale detailed view of the 0-100 range where most segments cluster. The severe right-skew (mean = 6,763) necessitated robust statistics and percentile-based threshold selection.

Analysis Output Local Plan Comparative Review

To review the results of the feasibility analysis against real-world use cases, researchers first compared the findings against locally identified candidates for road diet or lane reconfiguration (e.g., those identified in Highway Safety Improvement Plan project lists, news articles, or other published documents), as well as known examples of completed road diet projects; see Appendix C. Completed projects were identified based on researcher knowledge, stakeholder input solicited, and news/press release research, supported by a review of satellite imagery and Google Street View to confirm configuration changes and identify an approximate date of project completion.

To identify potential candidates, over 40 transportation plan documents were reviewed to identify projects, particularly those targeting safety or access improvements for vulnerable road users, in which a lane reconfiguration was the target intervention. Where underlying GIS data was shared by local or regional agencies, this data, which often includes details not articulated in the final published plan, was reviewed to further

identify recommended projects. Although road diets are suggested as one possible countermeasure or strategy among many in most plan documents, three plans and/or accompanying spatial datasets provided to the researchers clearly and systematically articulate desired roadway reconfigurations (e.g., road diets, lane removals, width adjustments, etc.):

- Moving New Orleans Bikes (2019)—City of New Orleans
- South Central Regional Bicycle and Pedestrian Plan (2024)—SCPDC
- Regional Active Transportation Plan (2024)—NLCOG

The indicated segments were categorized as Lane Removal (LR), Lane Width Adjustment (LA), or General Road Diet (if unspecified in the plan document). To compare proposed road diet projects with analysis feasibility results, all segments identified as "LR Feasible" or "LA Feasible" were extracted. Next, the two resulting spatial layers were analyzed to identify overlapping segments. To account for differences in linework between DOTD network layers and locally produced plan document features, a 10-m search distance was applied to identify related segments. The resulting layer was manually reviewed to identify and remove segments within 10 m but not parallel to or corresponding with a target segment (i.e., perpendicular corridors intersecting a target segment). Very short LR-feasibility segments (i.e., less than approximately one block long) were also removed to avoid overrepresenting the extent of alignment.

Finally, feasibility results were filtered to highlight only LR/LA-feasible segments on state-owned roads, then visually cross-referenced, due to a lack of publicly available spatial data, against published maps of completed, pending, and proposed Road Transfer Program projects for each DOTD District. This enabled researchers to identify corridors where transfer of state-owned assets to local ownership has been proposed or is in progress, which may present strong opportunities for road diets or reconfiguration to better align right-of-way allocation with local needs. The approximate beginning and end points of corridors which are fully or substantively identified as either LA- or LR-feasible were noted, as well as whether the segments in question are identified in DOTD's current maps as proposed (State Highways Proposed for Transfer to Local Government Roadway System), pending (State Highways to be Transferred Under Existing Agreements with Local Government), or, in the case of maps reflecting changes since the ARAN data was published, completed (State Highways Transferred to Local Government Roadway System).

Discussion of Results

This section presents the screening results, with case studies that explain how to use the research output.

Result Overview

Table 2 provides a summary of the feasibility filtering results with opportunity screening results appended. Overall, 0.5% of the ~1.8 million 0.1-mi. road segments (568.8 mi.) satisfied all contextual and spatial requirements and were classified as “Feasible” for lane reduction (LR). The rest of the segments either are not feasible for lane reduction (97.4%, or 1,819,050 mi.) or have missing data (0.3%, or 464 mi.). Among feasible segments, First Priority designations were assigned as follows: 39.6% (219 mi.) for active transportation investment, 29.8% (165.8 mi.) for crash reduction, 13.3% (72.2 mi.) for injury/fatal crash reduction, 9.9% (58.1 mi.) for speeding reduction, and 0.2% (1.4 mi.) for parking shortage.

For lane width adjustment (LA) feasibility, 1.8% of segments (33,500 segments, 3,091.1 mi.) had sufficient extra space (≥ 4 ft.) for lane narrowing without lane removal and were classified as “Repaint.” The remaining segments were either infeasible for LA treatment (3.6%, 5,483 mi.) or lacked lane width, shoulder width, and other data for comparison with the minimum design guidelines, preventing assessment (94.6%). Among LA-feasible segments, First Priority designations were assigned as follows: 9.1% (225.1 mi.) for active transportation investment, 4.6% (118.4 mi.) for crash reduction, 1.9% (50.8 mi.) for injury crash reduction, 3.0% (71.8 mi.) for speeding reduction, and 0.3% (9.5 mi.) for parking shortage.

A subset of 0.1% of segments (1,723 segments, 122.4 mi.) qualified as feasible for both lane reduction and lane width adjustment, providing maximum flexibility for multimodal roadway feature additions. An additional 1.3% of segments were found to have substandard lane or shoulder widths that fail to meet the current Minimum Design Guidelines, despite being ineligible for road diet treatments. Those road segments likely underwent special design studies or were constructed long before the current design guideline was implemented. It may be worthwhile to investigate the latter case to see whether outdated designs are associated with a higher crash risk.

The distribution of opportunity factors varied substantially across feasibility categories, revealing distinct geographic and contextual patterns. Active transportation emerged as the most prevalent opportunity factor among lane width adjustment (LA) feasible

segments, with 92.0% of the total prioritization (30,832 segments combining First and Second Priority, 2,903.3 mi.) showing investment potential, substantially higher than crash (22.8% total) or speeding concerns (11.1% total) within this category. This result may indicate that LA-feasible corridors are predominantly located in areas lacking pedestrian and bicycle infrastructure, where narrower lane restriping can efficiently create dedicated active transportation space without lane removal. In contrast, on-street parking represented the least common opportunity factor across all feasibility categories, with only 19.0% of lane reduction (LR) feasible segments and 5.0% of LA-feasible segments experiencing parking shortages. The higher parking priority rate among LR corridors (19% versus 5% for LA) likely reflects their concentration in denser urban contexts with greater dining activity, while the overall low parking priority prevalence indicates that most Louisiana roadway segments have adequate off-street parking supply relative to demand. Notably, parking shortages achieving First Priority status were exceptionally rare (0.2% of LR segments, 0.3% of LA segments), with only 115 segments statewide identified as lacking any parking facilities within walking distance of restaurants. This finding suggests that parking-focused road diet justifications apply to highly localized contexts rather than broad corridor typologies. The integration of opportunity factors with feasibility screening enables transportation agencies to prioritize road diet implementation based on measured needs rather than geometry alone.

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Table 2. Screening result overview

Feasibility category	Category count	Active transportation	On-street parking	All crashes	Injury/fatal crashes	Speeding
Feasible for lane reduction (i.e., "Feasible")	8,619 (0.5%) 568.8 mi.	Total: 5,015 (58.2%) 337.8 mi.	Total: 1,642 (19.0%) 98.1 mi.	Total: 7,917 (91.9%) 513.5 mi.	Total: 7,050 (81.8%) 456.8 mi.	Total: 3,083 (35.8%) 209.3 mi.
		1st: 3410 (39.6%) 219.0 mi.	1st: 17 (0.2%) 1.4 mi.	1st: 2,570 (29.8%) 165.8 mi.	1st: 1,149 (13.3%) 72.2 mi.	1st: 854 (9.9%) 58.1 mi.
		2nd: 1605 (18.6%) 118.8 mi.	2nd: 1,625 (18.85%) 96.7 mi.	2nd: 5,347 (62.0%) 347.7 mi.	2nd: 5,901 (68.5%) 384.6 mi.	2nd: 2,229 (25.86%) 151.2 mi.
Feasible for lane width adjustment (i.e., "Repaint")	33,500 (1.8%) 3,091.1 mi.	Total: 30,832 (92.0%) 2,903.3 mi.	Total: 1,672 (5.0%) 128.4 mi.	Total: 7,627 (22.8%) 590.3 mi.	Total: 5,874 (17.5%) 454.4 mi.	Total: 3,722 (11.1%) 279.6 mi.
		1st: 3,051 (9.1%) 225.1 mi.	1st: 97 (0.3%) 9.5 mi.	1st: 1,531 (4.6%) 118.4 mi.	1st: 634 (1.9%) 50.8 mi.	1st: 990 (3.0%) 71.8 mi.
		2nd: 27,781 (82.9%) 2,678.2 mi.	2nd: 1575 (4.7%) 118.9 mi.	2nd: 6,096 (18.2%) 471.9 mi.	2nd: 5,240 (15.6%) 403.6 mi.	2nd: 2,732 (8.2%) 207.8 mi.
Feasible for both lane reduction and lane width adjustment	1,723 (0.1%) 122.4 mi.	Total: 1,305 (75.7%) 94.0 mi.	Total: 331 (19.2%) 21.7 mi.	Total: 1,643 (95.4%) 115.7 mi	Total: 1,535 (89.1%) 107.3 mi	Total:1,121 (65.1%) 80.0 mi
		1st: 802 (46.5%) 55.5 mi.	1st: 1 (0.1%) 0.1 mi.	1st: 406 (23.6%) 30.0 mi.	1st: 173 (10.0%) 13.0 mi.	1st: 350 (20.3%) 25.3 mi.
		2nd: 503 (29.2%) 38.4 mi.	2nd: 330 (19.2%) 21.6 mi.	2nd: 1,237 (71.8%) 85.7 mi.	2nd: 1,362 (79.0%) 94.3 mi.	2nd: 771 (44.7%) 54.7 mi.

Figure 6 shows road segments that are feasible for either lane reduction or lane width adjustment based on the study screening results. Lane reductions are primarily found in major cities with higher population density. In contrast, lane width adjustment appears to occur across the entire state.

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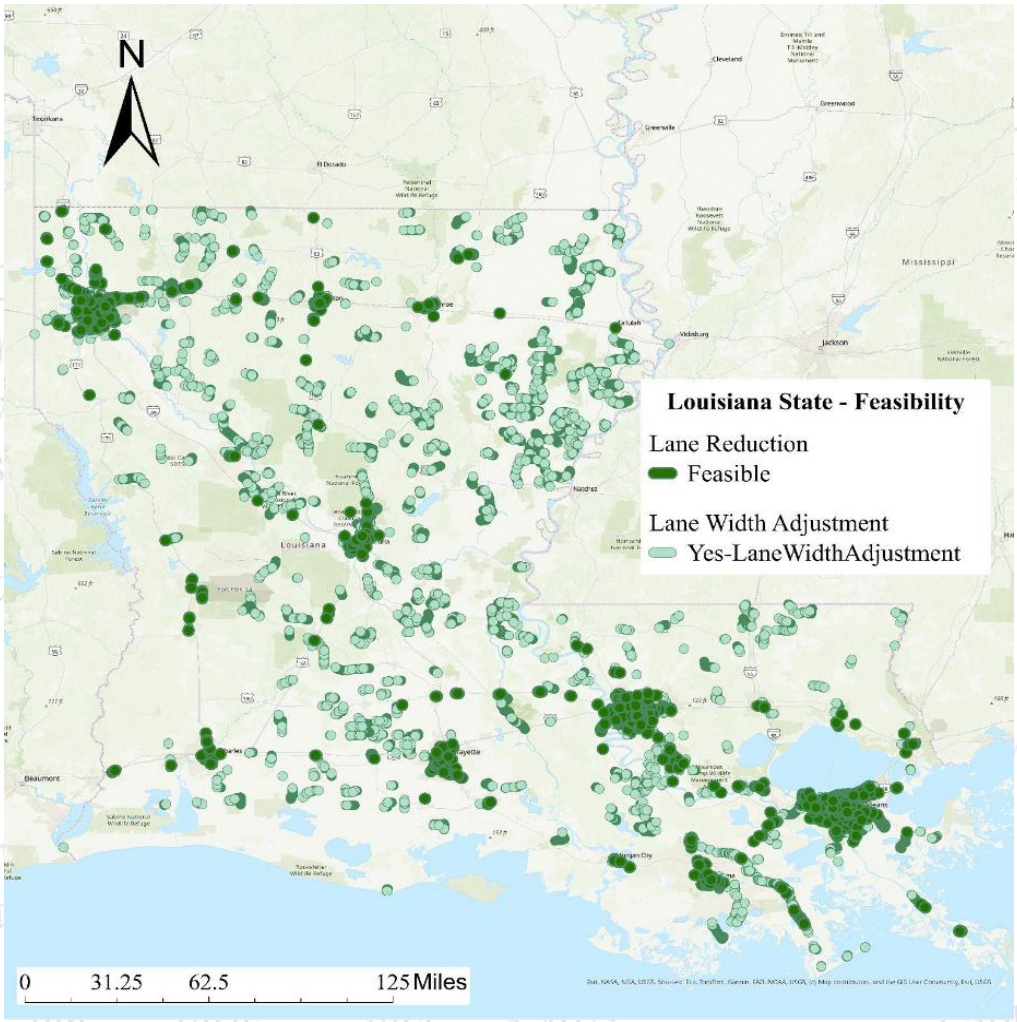
Figure 6. Screening result map—feasibility



Local Plan Comparative Review Result

As Aryal et al. [24] note, jurisdictions considering road diets should aim to maintain an inventory of planned, completed, and potential road diets to support future evaluation and the refinement of contextually relevant feasibility factors. To support future evaluation and to compare the results of the feasibility and opportunity screening with locally identified assessments and priorities, this review explores how the road diet feasibility analysis compares with locally identified candidates for road diets or lane reconfigurations, including both travel lane removal and lane width adjustments, where specified. It also identifies and examines sample corridors/segments with strong road diet potential, representing a variety of roadway/network contexts. These samples are explored as case studies to verify accuracy and identify limitations of spatial input data, collect additional data that may support or hinder road diet implementation, and relate the highlighted segment to any relevant plans and policies. The purpose of this task is to test

the utility of the screening tool prior to recommendation and to illustrate possible use cases for implementation.

Over 50 Louisiana corridors were identified where lane reconfigurations (i.e., 35 lane reductions, 14 lane width adjustments, and two with a mix of both) have already occurred. Approximately two-thirds of these were in Orleans Parish. Nearly all (90%) led to the addition of new or enhanced bicycle facilities, while only 12% included the addition of a two-way center turn lane. Notably, most of the examples in New Orleans were on divided roadways with existing medians. At least three projects included adding on-street parking, while numerous others formalized parking areas through striping. In at least four examples, some or all on-street parking was removed to accommodate other roadway uses. At least 11 projects involved lane reductions from six to four or five lanes, indicating demonstrated opportunities in the state for rebalancing larger roadways with excess capacity beyond the standard 4-3 road diet conversion. A complete list of locally identified, completed road diet projects identified is provided in Appendix C.

Meanwhile, a total of 527 segments were identified in plan documents, with available spatial data, as suitable candidates for road diet-related projects: 483 in New Orleans (including several which have subsequently been implemented and are accounted for above), 21 in Houma and Morgan City (SCPDC), and 23 in Shreveport, Bossier City, and Minden (NLCOG). Of these, 181 segments corresponded to an LR-Feasible segment, and 68 corresponded to a LA-Feasible segment (47%). The alignment between analysis results and plan recommendations was strong in the South Central and Northwest Louisiana regions (76% and 65% of segments overlapping, respectively), but lower in Orleans Parish, where only 45% of segments identified as potential road diet candidates aligned with analysis findings. This may be explained by gaps in the roadway network data (e.g., missing lane-width values or AADT) and/or by differing thresholds for feasibility when considering local roads rather than state highways. Table 3 shows the comparison results between the screening results and local plans.

Table 3. Comparison of feasibility results with road diet projects identified in local plans

Segments identified in plan	**TOTAL**	**MNOB**	**SCPDC**	**NLCOG**
Road diets (general)	**44**		21	23
Travel lane removal	**379**	379		
Lane width adjustment	**104**	104		
TOTAL SEGMENTS	**527**	483	21	23
Proximity analysis results				
LR-Feasible overlap	**181**	158	11	12
LA-Feasible overlap	**68**	60	5	3
TOTAL PERCENT OVERLAPPING SEGMENTS	**47.25%**	45.13%	76.19%	65.22%

In addition to the projects identified in the three plan documents for which detailed data about proposed countermeasures were available, several additional proposed or pending projects were identified during this research, which may be candidates for further evaluation as potential road diets to test this study's methodology and/or to evaluate outcomes related to project implementation. These include:

- **LA 16—Tangipahoa**, State Project H.016390, Control Section 262-07 (RPC/District 62 project)—anticipated letting date in 2026; identified in State Transportation Improvement Program and funded through the Highway Safety Improvement Program (HSIP) [89]. Exact parameters of the project were unavailable; no segment of LA 16 in Tangipahoa Parish is identified as LR/LA-feasible in this analysis.
- **LA 15—Winnsboro Road, Monroe, from US 165 to US 165 Business**—a proposed 4-3 lane road diet with 5 ft. shoulders from Hadley Street to Orange Street is pending. This project is part of the state's Road Transfer Program and includes pedestrian crossing improvements [90]. Although traffic volumes are within acceptable thresholds for the planned lane removal, this segment is not currently identified as LR/LA-feasible in this analysis due to missing key data attributes.
- **Johnston St, Lafayette, from Coliseum Rd to Garfield St**—completed road transfer corridor; identified as a proposed 4-3 road diet project with separated bike lanes [91]. A portion of this segment is identified as LR-feasible, while one portion, which already has a center turn lane and existing bike lane, is highlighted as LA-feasible only. This corridor also emerges as a Second Priority segment for both active transportation and parking opportunities.
- **LA 60—Washington**, State Project H.013713, Control Section 279-04—Safe Routes to Public Places project in Bogalusa involving a road diet, sidewalks, curb ramps, and crosswalks [89]. The portion of LA 60 in Bogalusa that is currently four lanes is identified as "unclassified" in the feasibility screening, indicating that the segment could not be evaluated due to missing key data attributes. In this case, Max Speed. Manual editing to add the missing speed value would result in a classification as LR-feasible.
- **Ardenwood Drive, Baton Rouge**, State Project H.013622.5, Control Section 000-17—Local Road Safety Program project involving a traffic study for a road diet evaluation [92]. Although traffic volumes are within acceptable thresholds for the planned lane removal, this segment is not currently identified as LR/LA-feasible in this analysis due to errors in the underlying ARAN data, which incorrectly identify this corridor as a two-lane road.
- **LA 27—Calcasieu**, **from Richardson Road to LA 12,** State Project H.014964, Control Section 031-06—HSIP-funded safety project scheduled in 2024-2025

Highway Priority Program [93]. Although traffic volumes are within acceptable thresholds for the planned lane removal, this segment is not currently identified as LR/LA-feasible in this analysis due to missing ARAN data.

- **US 11 (Front St), St Tammany**—NORPC-led Stage 0 study for Front St in Slidell from Fremaux Avenue to LA 433—proposed 4-2 road diet [94]. Although traffic volumes are within acceptable thresholds for the planned lane removal, this segment is not currently identified as LR/LA-feasible in this analysis due to missing ARAN data.

In addition to providing an opportunity to compare proposed projects to data-driven screening results, this analysis facilitates review of previously executed projects, particularly those completed since the underlying ARAN network data on which the feasibility analysis relies. Given complete and accurate roadway network data, these projects would be expected to be identified as LR or LA-feasible, based on the previous roadway AADT, capacity, and configuration. As the above examples indicate, missing or incorrect ARAN data reduces the reliability of the screening, and suggests that, given complete data, the range and mileage of potentially feasible segments are substantially larger.

Additionally, several examples in Orleans, Jefferson, and East Baton Rouge Parishes were identified in which the analysis results indicate that road diets are feasible, even though the reconfiguration has already been completed. This represents an inherent limitation of the analysis (i.e., outdated underlying data) but helps validate the reasonableness of the results from these successfully completed projects, as well as identify remaining gaps or questions that require additional investigation to understand discrepancies or limitations. For projects completed in 2020 or later (and thus for which available data reflects pre-road diet conditions), results were reviewed to identify whether this analysis approach identified them as fully or partially feasible for road diet or lane width adjustment; see Table 4. Of the 15 corridors identified, six were identified through the screening as fully or partially suitable for lane reduction or width adjustment. In several cases, only one direction of a divided roadway was deemed feasible in the results, generally due to data gaps for the corresponding segment of the dual carriageway. In other cases, non-traditional road diet contexts (e.g., 6-4 or 2-1 one-way cases), the screening appears to perform less reliably.

Table 4. Completed road diet projects, 2020 to 2025, with feasibility results

Corridor	Start	End	Parish	State/local	Estimated completion year	Start general lanes	End general lanes	Lane reduction or lane width adjustment	Feasibility analysis result
Government St	Eddie Robinson	Hebert St	East Baton Rouge	DOTD	2020	4	3	LR	LR—Partial
Skip Bertman Drive	Football Ops Lot	River Rd	East Baton Rouge	Local	2020/21	4	2	LR	LW—Partial
Severn Ave	18th St	W Esplanade	Jefferson	Local	2023	6	4	LR	None
Whitney Ave	Landry St	Carol Sue (Almost)	Jefferson	Local	~2024	2	1	LR	None
Holmes Blvd	May St	Terry Pkwy	Jefferson	Local	2022/23	2	2	LA	None
Elysian Fields Ave	N Peters	St Claude	Orleans	Local	2020	6	4	LR	LR—Northbound
Lakeshore Drive	Lake Marina	Canal Blvd	Orleans	Local	2021	4	2	LR	LW
Old Gentilly Road	Michoud	Chef Menteur	Orleans	Local	2022	4	2	LR	None
MLK Blvd	St Charles	S Claiborne	Orleans	Local	2023	6/3	2	LR	None
AP Tureaud	St Bernard	N Broad	Orleans	Local	2024	4	2	LR	None
Poydras	Convention Center	Loyola	Orleans	Local	2024	6	6	LA	LR—Eastbound, Partial; LW—Westbound, Partial
Howard Ave	St Charles	Loyola	Orleans	Local	2025	4	4	LA	None
S/N Broad	Tulane	Bienville	Orleans	DOTD	2025	6	4	LR	None
Read Blvd	Dwyer	Lake Forest	Orleans	Local	~2020	6	4	LR	LR—Southbound; LW—Northbound, Partial
Canal Blvd	Allen Toussaint	Lakeshore Drive	Orleans	Local	~2021	4	2	LR	LR—Northbound

Examples where a mismatch between analysis data and the current roadway configuration include:

- **Government Street, Baton Rouge**—4-3 road diet completed in 2021. Portions (though not all) of this corridor appear as LR-feasible in the analysis results due to discrepancies in how the segments were coded in the underlying ARAN data (i.e., portions of roadway erroneously identified as having exclusive turn lanes prior to road diet implementation).
- **Tulane Avenue, New Orleans**—while an earlier project on the state-owned portion of the corridor is accounted for in the analysis (and thus correctly does not emerge as a

road diet candidate), a locally-controlled portion of the corridor from Elk Place to S. Claiborne was reconfigured in 2018.

- **North Broad St, New Orleans**—portions of this corridor have been iteratively reconfigured over time to reduce the number of general travel lanes and provide bicycle accommodation. This segment, completed in 2025, closed a gap in the existing bikeway network and converted it into four lanes. However, the recently redesigned segment does not appear as LR-feasible in the screening result due to missing AADT data for the eastbound lanes of the dual carriageway and high AADT volumes on the westbound lanes, further suggesting challenges associated with the underlying data.
- **Elysian Fields Ave, New Orleans**—a locally-owned portion of this corridor (N. Peters to St. Claude Avenue) was converted from six to four lanes in 2020. This segment emerges in the feasibility analysis as a lane-reduction candidate and as an active transportation priority, reflecting strong alignment of screening results when roadway data is complete.
- **Poydras St, New Orleans**—this corridor was reconfigured in 2024 to add conventional bike lanes from Loyola Avenue to Convention Center Boulevard by reducing the width of general travel lanes. Portions of this corridor are identified in the analysis as LR-feasible, while other portions (e.g., opposite side of the divided roadway) are indicated as LA-feasible only. The discrepancy appears to be an artifact of missing DHV and AADT data on the westbound side. Notably, this provides an example of a corridor generally found to be eligible for lane reduction, and for which local plan documents indicate a protected bikeway as the preferred facility, necessitating lane reduction, but where local agencies chose a lane width reduction instead to reduce implementation friction.
- **Severn Ave, Jefferson Parish**—this 6-4 road diet, completed in 2022, included the retention of pre-existing turn lanes, while adding a curb-protected bike lane from 18th St to West Esplanade Avenue. This segment does not appear as LR or LA-feasible, due to issues with dual carriageway roadway data (i.e., indicated as a two-lane roadway, rather than two lanes of a four-lane corridor).

Finally, the results of the feasibility screening were compared to mapped corridors identified through DOTD's Road Transfer Program as state highways proposed to be transferred to local government ownership, as well as those where transfer is pending or already completed [95].

Over 200 corridors across 58 parishes were identified as potential road transfer candidates and as either lane reduction or lane width adjustment candidates based on available data;

see Appendix C. The majority of these (92%) are proposed road transfer corridors, which do not necessarily indicate that a transfer will in fact take place, but rather that they are considered technically eligible for transfer by DOTD. Six percent were corridors in the process of transfer, and three corridors were on segments where the road transfer has already been completed. The majority (84%) were also identified as lane width reduction-feasible only, while another 9% were fully or partially screened as eligible for a mix of lane reduction and lane width adjustment, and another 7% were identified as fully or partially feasible for lane reduction.

Although this analysis should not be presumed to be definitive due to lack of geospatial data for road transfer corridors to identify all segments aligned with the feasibility screening (i.e., some shorter corridors with fewer consecutive feasible segments may have been missed) and limitations of the underlying data (i.e., corridors with partial feasibility may in fact be fully feasible, with the non-feasible segments screened out due to missing data), the review suggests that the feasibility screening may be a useful tool, in conjunction with local plan documents and data, to efficiently identify locations where road diets may offer benefits. In urban areas and town centers, road transfers can offer additional flexibility to reconfigure the existing right-of-way to meet local needs; screening can identify strong candidates based on feasibility and opportunity factors. In rural areas, opportunity factors based on active transportation demand and land use may be less applicable; however, safety benefits associated with speed management and wider shoulders may indicate valuable opportunities for lane width adjustment. Additionally, reallocation of road width to paved shoulders may provide critical basic connectivity for vulnerable road users in communities with limited dedicated pedestrian and bicycle infrastructure.

The following sections provide a more in-depth review of the findings for selected case study corridors.

Case Study 1: Florida Street/Boulevard and North Boulevard, Baton Rouge

The remainder of this section introduces a series of case studies using the screening results. Based on the evaluation, Florida Street/Boulevard and North Boulevard in Baton Rouge, which is Louisiana's capital city, represent an exceptional opportunity for comprehensive corridor-level road diet implementation; see Figure 7. These two parallel roads, each approximately two mi. in length, share similar characteristics with four lanes (two in each direction) and 11 ft. lane widths. Together, they offer approximately four mi. of potential road diet treatment.

Figure 7. Florida Street/Boulevard and North Boulevard, Baton Rouge—Feasibility

Figure 8shows the spatial distribution of the Active Transportation Investment Score, which is 5.6 on average for Florida Street/Boulevard and 1.9 for North Boulevard. These values are among the First Priority classification for active transportation improvements, which reflects high potential demand for bicycle and pedestrian facilities, more bicycle and pedestrian crashes, strategic location within the transportation network, and the presence of destinations that attract walking and cycling activities. Both corridors serve transit routes and accommodate truck traffic, with multiple access points creating frequent conflict zones.

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Figure 8. Florida Street/Boulevard and North Boulevard, Baton Rouge—Active Transportation

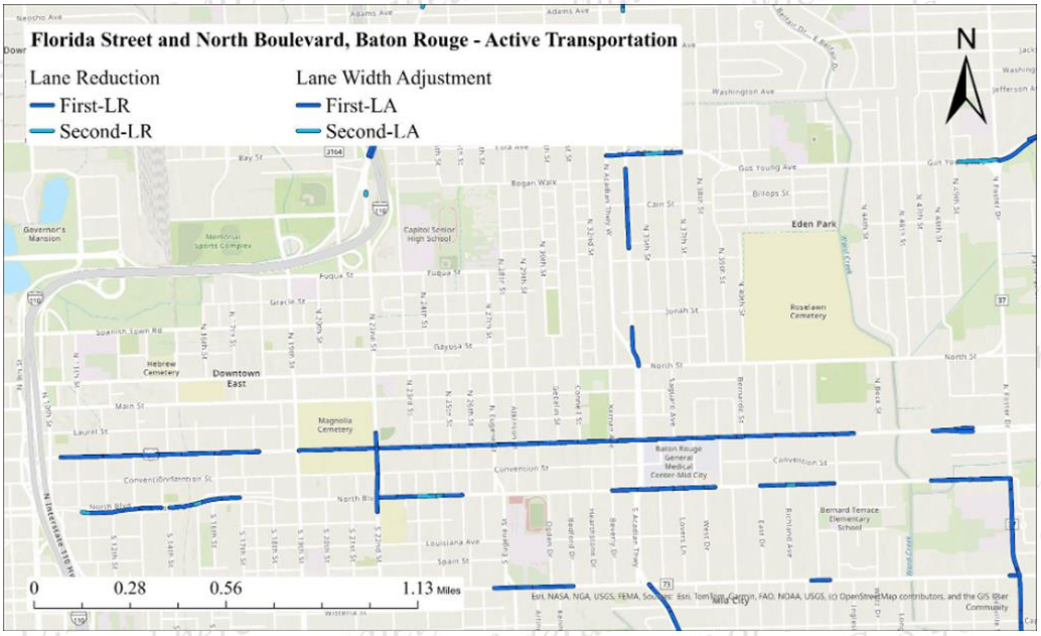

Figure 9 shows the speeding analysis results. Florida Street/Boulevard is classified as Second Priority in the speeding analysis, with a three-year weighted average speeding rate of 4%. This indicates that approximately 4% of the speed observations on this corridor exceeded the posted speed limit by more than 5 mph during the 2022 to 2024 analysis period. While this speeding rate is below the statewide median threshold of 5.98%, it still represents speeding behavior that could benefit from traffic calming interventions.

Figure 9. Florida Street/Boulevard and North Boulevard, Baton Rouge—Speeding

Figure 10 shows the crash analysis results[2]. Florida Street/Boulevard carries 9,450 vehicles per day, while North Boulevard is identified in the underlying data as carrying only 530 vehicles per day. More recent (2024) count data for North Boulevard suggest the reported low AADT may be anomalous, with actual volumes ranging from 5,000 to 7,000. However, even taking this into consideration, both corridors are well within feasible ranges for lane reduction. Despite this moderate to low traffic volume, both roads experience elevated crash rates. Florida Street has recorded 332 total crashes, including 69 injury/fatal crashes in three years, resulting in all-crash and injury/fatal-crash rates of 1,604.2 and 333.4 per 100 million vehicle miles traveled. North Boulevard, despite its extremely low volume, has recorded 106 total crashes, including 33 injury crashes in three years, showing all-crash and injury-crash rates of 9,132.4 and 2,843.1 per 100 million vehicle mi. traveled, indicating serious safety concerns.

[2] Crash Data Disclaimer: Louisiana crash data contained herein is prepared solely for the purpose of identifying, evaluating, and planning safety improvements on public roads, which may be implemented utilizing federal aid highway funds and is therefore exempt from discovery or admission into evidence pursuant to 23 U.S.C. 407. Contact the Louisiana Department of Transportation and Development's Traffic Safety Office at (225) 379-1214 before releasing any information.

Figure 10. Florida Street/Boulevard and North Boulevard, Baton Rouge—Crashes

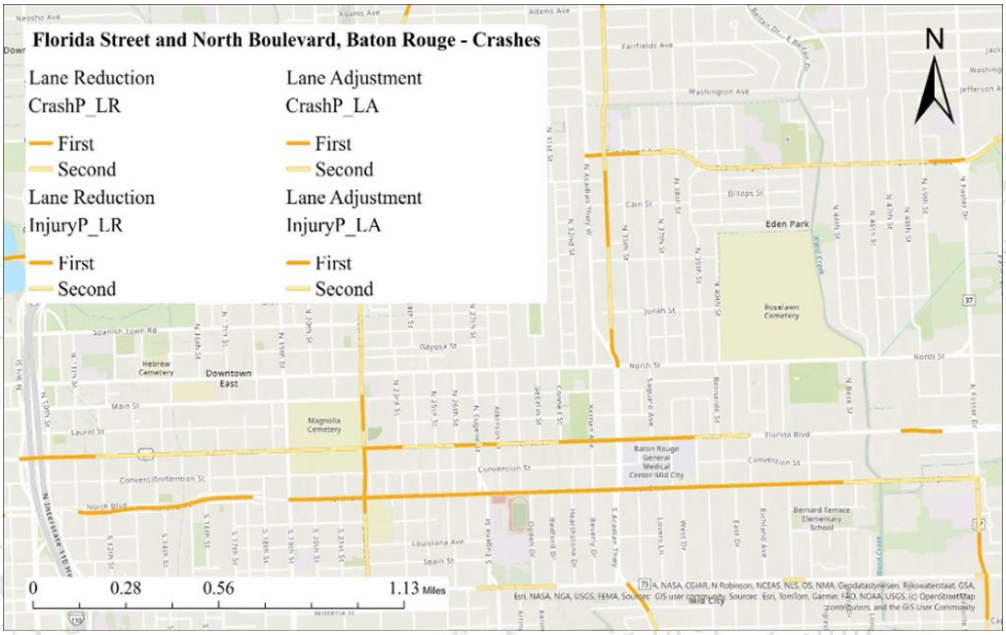

Figure 11 and Figure 12 show the street view of Florida Street/Boulevard and North Boulevard, revealing numerous driveway access points and mid-block T-intersections that create frequent conflict points for left-turning vehicles. Baton Rouge Magnet High School is located on North Boulevard, creating a 0.5-mi. school zone with elevated pedestrian activity during school hours. The presence of students crossing the four-lane undivided roadway heightens safety concerns, as vehicles turning left must stop in through lanes, creating rear-end collision risk and traffic flow disruption. A road diet treatment converting this corridor to three lanes (two through lanes plus a continuous center two-way left-turn lane [TWLTL]) would provide dedicated space for turning movements, eliminating the need for left-turning vehicles to stop in the through lanes. This configuration reduces crash risk at access points while also calming traffic by creating a more orderly travel environment that discourages speeding and aggressive lane-changing behavior, addressing both the documented crash history and moderate speeding concerns on this corridor.

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Figure 11. Florida Street/Boulevard, Baton Rouge (Google Street View, February 2025)

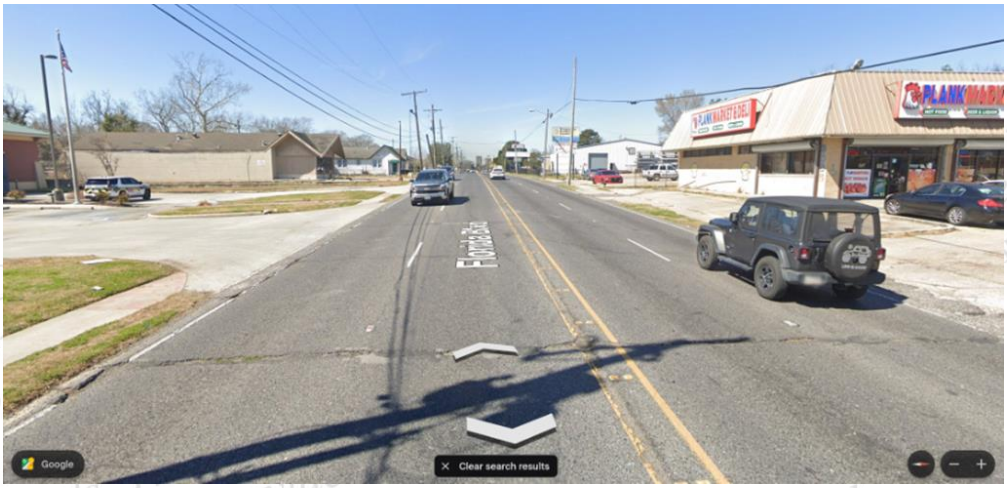

Figure 12. North Boulevard, Baton Rouge (Google Street View, February 2025)

Case Study 2: General Meyer Avenue, New Orleans

General Meyer Avenue is a four-lane undivided urban arterial in New Orleans carrying 6,168 vehicles per day, well below typical capacity thresholds for this road type; see Figure 13. With a posted speed limit of 40 mph and existing 11-ft. lane widths, this corridor presents an opportunity for a traditional 4-to-3 lane conversion. Adding sidewalks will improve walkability and safety, especially given past injuries or fatal crashes.

Figure 13. General Meyer Avenue, New Orleans—Feasibility

Implementing a road diet on General Meyer Avenue would convert the existing four lanes to a three-lane configuration with 11-ft. travel lanes in each direction, a 10-to-12 ft. center two-way left-turn lane, and 5-to-6 ft. bike lanes. This configuration is expected to reduce crashes by 19 to 47% based on national research, while providing new dedicated bicycle facilities that connect residents to parks and recreational destinations. The road diet would improve pedestrian crossing safety by reducing crossing distances and enhancing access to transit stops.

On average, the road has an Investment Score of 3.87, earning First Priority classification for active transportation improvements through lane reduction. This high score reflects significant bicycle and pedestrian potential, with the corridor serving transit routes and providing access to substantial recreational areas; see Figure 14.

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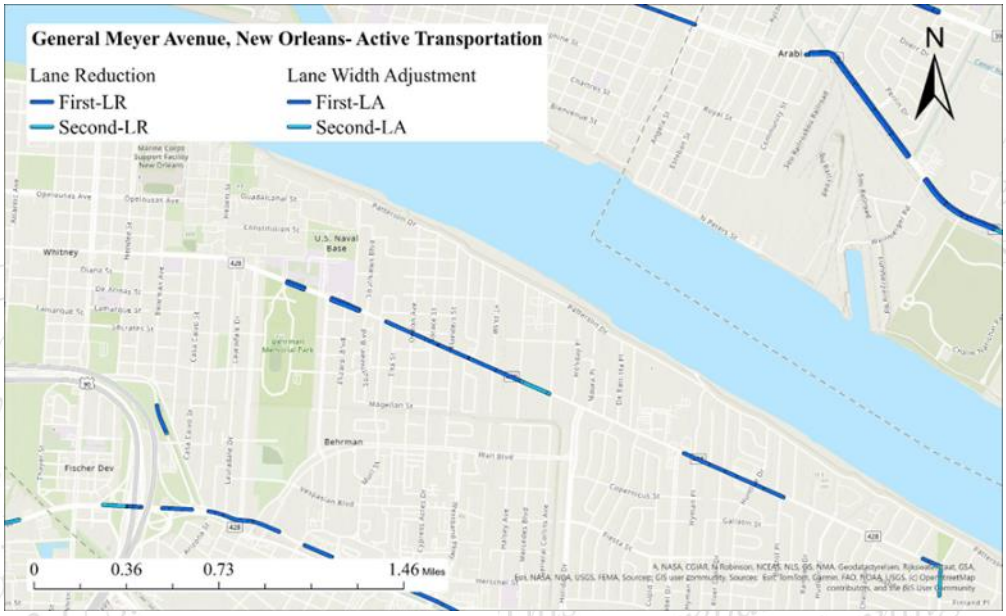
Figure 14. General Meyer Avenue, New Orleans—Active Transportation



The road has experienced 135 crashes with 50 injury crashes across 2.3 mi., which is feasible for a road diet, classified as Second Priority for crash reduction; see Figure 15.

Figure 15. General Meyer Avenue, New Orleans—Crashes

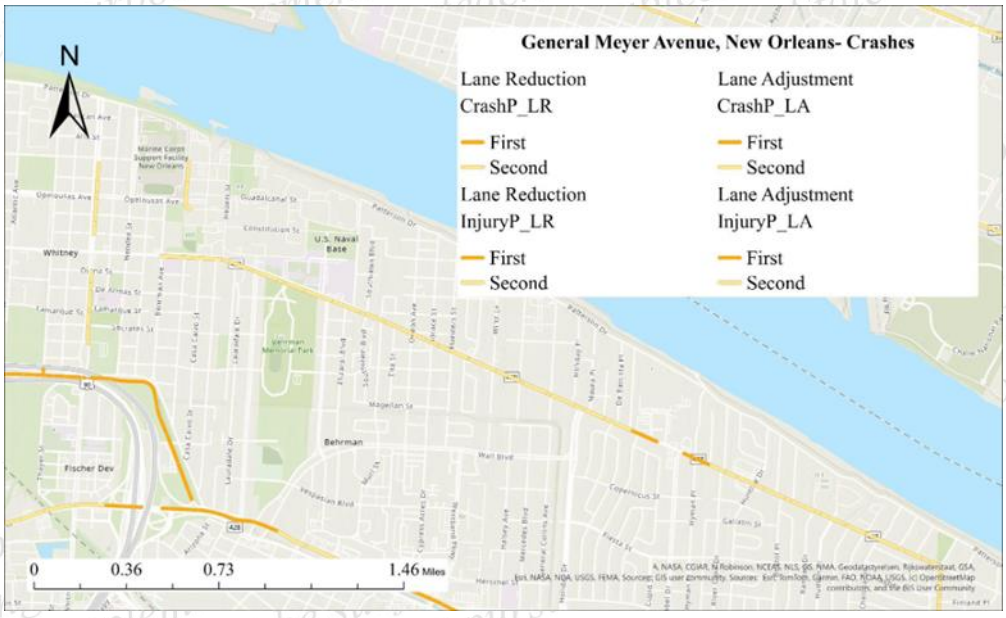
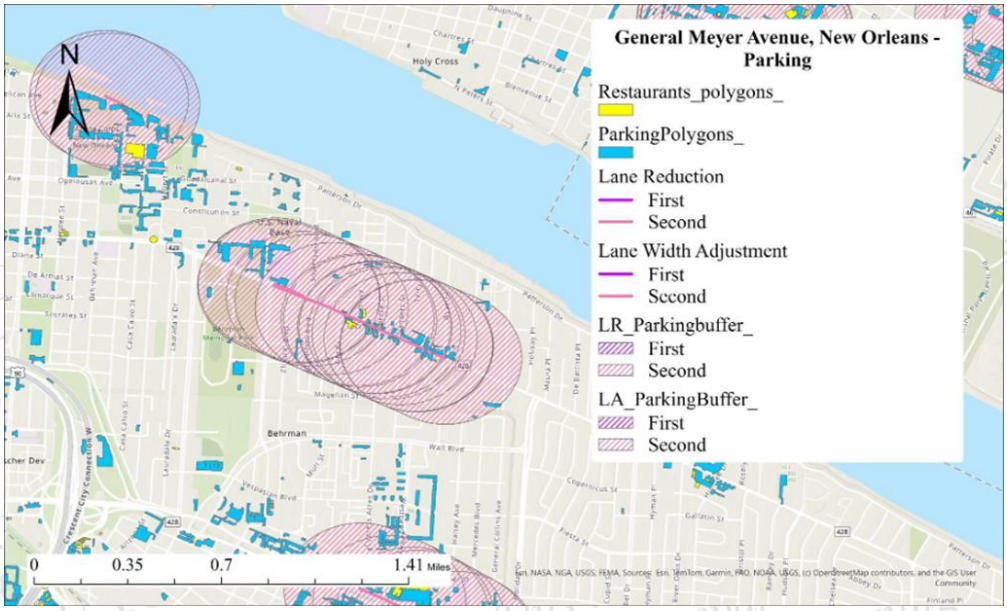


Figure 16 shows that General Meyer Ave also includes a one-mi. segment that falls within the Second Priority of parking need. This is based on a restaurant area of 6,479.7 and a parking area of 18,605.8 within a 0.25-mi. buffer around the segment and parking index of 2.8. On average, the parking index across this one mi. is 3.1.

Figure 16. General Meyer Avenue, New Orleans—Parking



A Stage 0 study for General Meyer Avenue, which is also a proposed road transfer program corridor, was completed in 2019, focusing on potential complete streets improvements between Behrman Avenue and Woodland [96]. The corridor was divided into three segments with differing characteristics: The Upper Avenue from Behrman to Pace Boulevard, Middle (Pace to Kabel), and Lower (Kabel to Woodland). For the Upper Avenue, a lane reduction was recommended to reduce speeding and improve multimodal access while retaining parking for an area school. For the Middle portion, a lane reduction and access management were recommended, with the reclaimed lane repurposed for green buffer space, on-street parking, and transit platforms. The Lower section concept plan proposed a lane reduction and the addition of transit platforms, green buffers, bike lanes, and sidewalks. The study identified corridor ADT ranging from 8,429 to 16,744 and conducted turn movement counts at seven key intersections, concluding that these traffic volumes supported a lane reduction at all intersections except the Holiday Drive intersection. Although this project has not yet advanced, the Stage 0 study aligns with screening results.

Case Study 3: Lakeshore Drive, New Orleans

Lakeshore Drive in New Orleans demonstrates how successful road diet implementations can be extended to create longer, more impactful corridors. A road diet has already been implemented on the westernmost section of this scenic lakefront corridor, including a central two-way left-turning lane, exclusive bike lanes in both directions, and buffers

between bike lanes and motor vehicle lanes to enhance safety. Figure 17 and Figure 18 show the before and after road diet implementation on the western part of this road.

Figure 17. Lakeshore Drive, New Orleans, before road diet implementation (Google Street View, January 2019)

Figure 18. Lakeshore Drive, New Orleans, after road diet implementation (Google Street View, April 2025)

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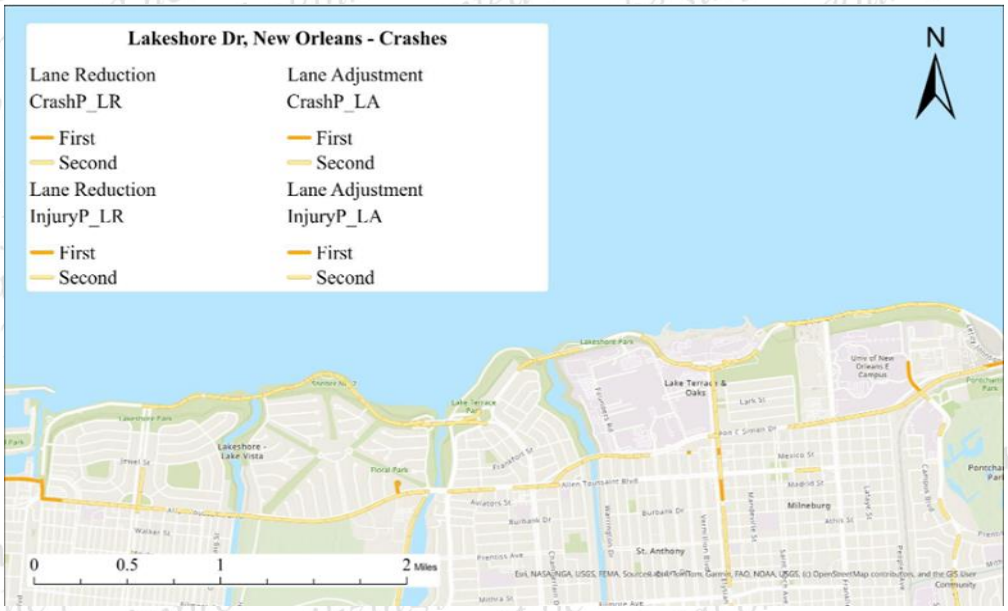
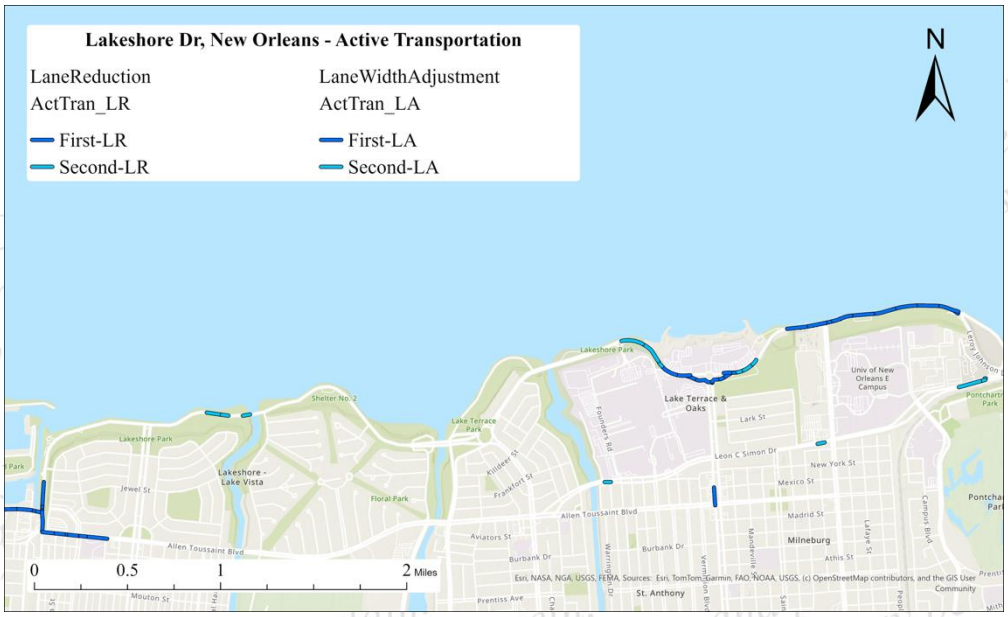
The untreated segments of Lakeshore Drive carry 6,355 vehicles per day with a posted speed limit of 35 mph and existing 10-ft. lane widths. These segments have experienced 70 total crashes with 16 injury crashes, with crash rates classified as Second Priority; see Figure 19.

Figure 19. Lakeshore Drive, New Orleans—Crashes



The road has an Investment Score of 1.32, earning First Priority classification for lane reduction to support active transportation. Nearly half of the untreated segments have high active transportation investment scores, despite currently lacking complete sidewalks or dedicated safe bikeways; see Figure 20.

Figure 20. Lakeshore Drive, New Orleans—Active Transportation



This is a positive example demonstrating that, in some cases, a road diet can be expanded to provide a contiguous corridor and a major addition to the active transportation network. Implementing a road diet and extending the existing bike facility support active transportation along this scenic corridor, providing access to recreational and entertainment destinations, as well as to two universities. The extension would create a continuous bike facility along the entire lakefront corridor, leveraging the proven success of the existing implementation to justify expansion with reduced implementation risk; see Figure 21.

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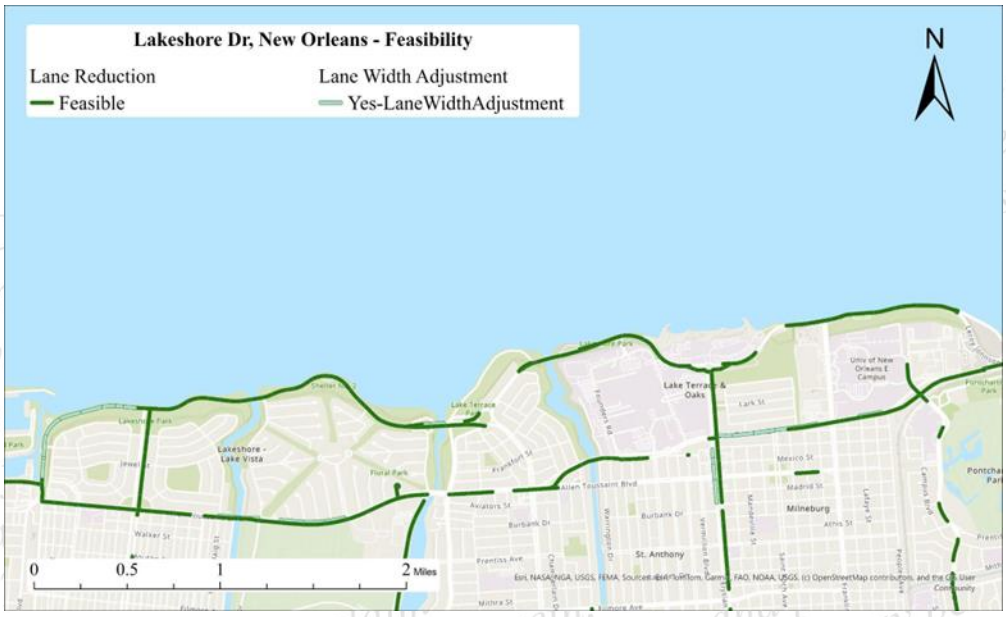
Figure 21. Lakeshore Drive, New Orleans—Feasibility



These case studies demonstrate exceptional opportunities for road diet implementation in Louisiana. Implementation would significantly enhance safety on corridors with demonstrated crash problems, create approximately six mi. of new dedicated bicycle facilities, and advance Complete Streets principles while improving quality of life and public health outcomes. The combination of strong technical analysis, proven precedents in the Lakeshore Drive project, and exceptional benefit-cost ratios makes these projects highly deserving of priority for implementation.

Result Visualization and Sharing

The screening results are included in a map package for data sharing. Appendix B is a data dictionary that provides an overview of map layers and data fields in each map layer. The screening results are also shared on an interactive web map for easy access. Additionally, general information about road diets, the study background, the proposed screening framework, and a selected case study were shared as a story map online to build mutual understanding and facilitate further discussion about road diet opportunities in Louisiana. The following pages describe each deliverable in depth to assist understanding and future implementation discussions.

Figure 22 shows an example of the Louisiana State Road Diet Screening Map package displayed in ArcGIS Pro. The map package contains all screening results organized into

analysis layers, including LR/LA Screening, Active Transportation Opportunity, Parking Opportunity, Crash Safety Improvement Opportunity, Speeding Safety Improvement Opportunity, All Segments Information, and all joined layers. This format enables practitioners and researchers to access, query, and analyze the full dataset locally. The drawback is that this data access approach will require ArcGIS Pro installed on a local machine and more experience with ArcGIS operations.

Figure 22. Louisiana State Road Diet Screening Map Package in ArcGIS Pro

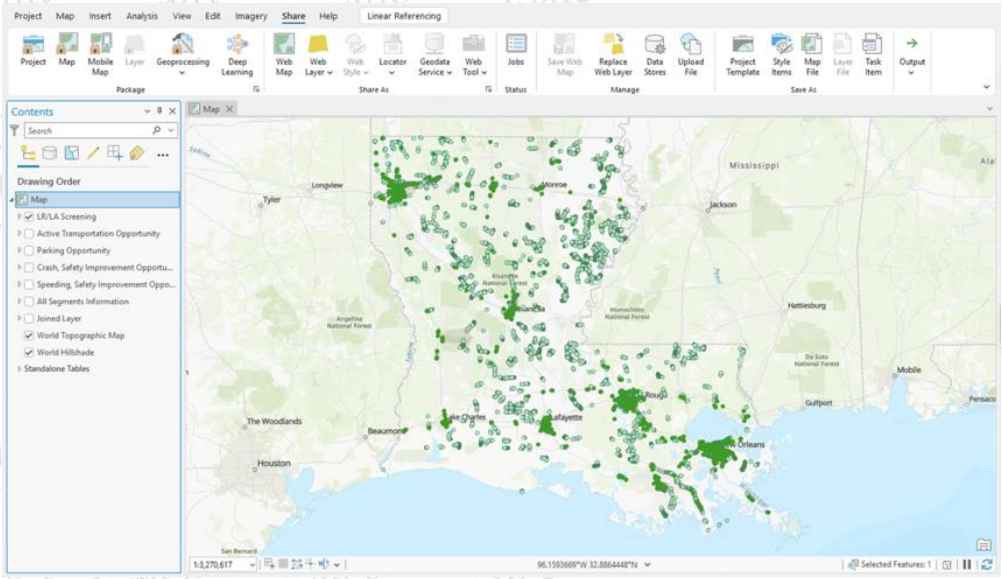


Figure 23 Shows the ArcGIS Online item (i.e., web map) page for the Louisiana State Road Diet Screening Map. The web map provides an interactive, browser-based interface for exploring screening results statewide without requiring desktop GIS software. Users can toggle individual analysis layers, identify specific road segments, and view attribute information directly through the map viewer.

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Figure 23. Louisiana State Road Diet Screening Web Map on ArcGIS Online

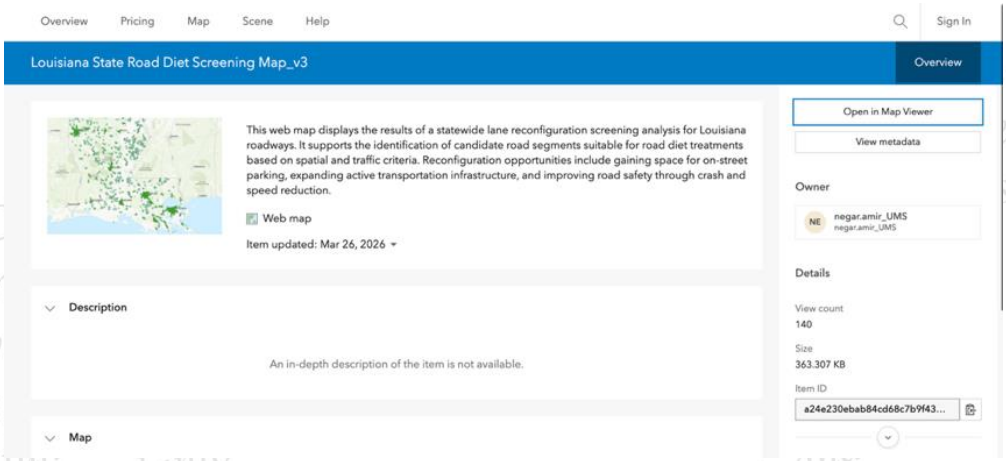
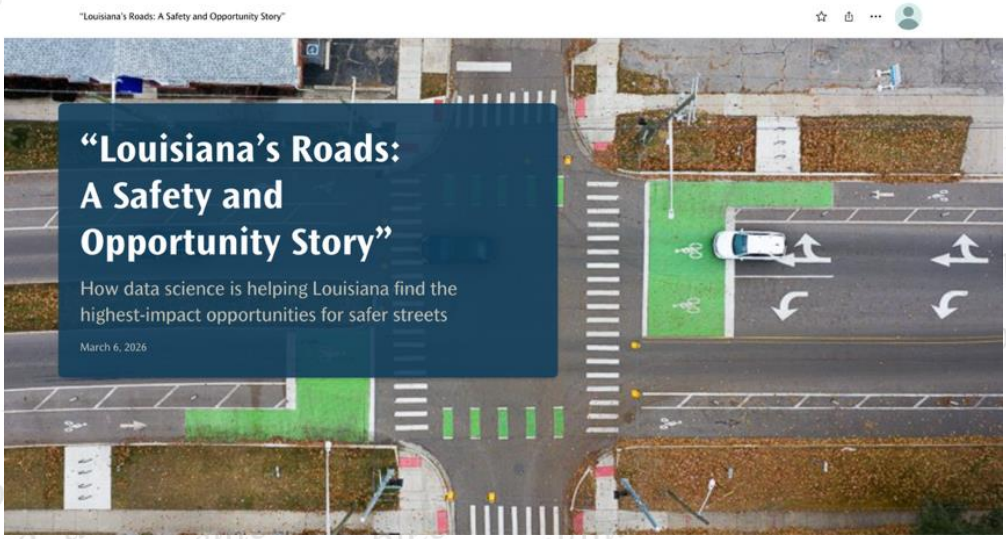


Figure 24 shows the landing page of the Louisiana Road Diet Story Map. The story map presents the study background, the road diet concept, the proposed screening framework, feasibility results, opportunity analyses, and a selected case study in a publicly accessible, narrative-driven format to support stakeholder engagement and build mutual understanding.

Figure 24. Louisiana Road Diet Story Map



Result Review and Stakeholder Survey

The research team sent a survey to the Project Review Committee members to review the study results and provide feedback on the current report and other map products. Most of the feedback focused on implementation, which has been incorporated in the Implementation Statement section of this report. The following are additional comments related to data limitations and possible further research investigations:

- **Data limitations:** The on-system ADT information is collected every three years, with the collection covering one-third of the state per year. The off-system ADT information is collected every ten yrs., with some regions being collected every year. In practice, a yearly growth factor is applied to the previous ADT until a new hard count is obtained. Future research may want to apply this practical solution or look for other ways to project future AADT to refine the screening results.
- **Demonstration projects:** Temporary reconfiguration projects can be an excellent way to test a proposed road diet; additional guidance from DOTD about requirements for implementing demonstration projects on state routes (as was done on Government Street) could be a helpful step in implementation.

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Conclusions

This study advanced statewide road diet screening methodology by demonstrating how emerging datasets can transform traditional geometric feasibility assessments into comprehensive, multi-dimensional prioritization frameworks. By integrating established roadway design standards with probe vehicle speed data, anonymized mobility analytics, commercial activity indicators, and three yrs. of crash records, this framework enables transportation agencies to identify not only where road diets are geometrically feasible, but where they can deliver the greatest safety, mobility, and economic benefits.

The screening of ~1.8 million roadway segments across Louisiana identified 8,619 segments (0.5%, 568.8 mi.) as feasible for lane reduction and 33,500 segments (1.8%, 3,091.1 mi.) as eligible for lane width adjustment through re-striping. When evaluated against opportunity metrics, geometrically feasible corridors frequently aligned with potential needs: over half of lane reduction-feasible segments demonstrated elevated active transportation demand, nearly one-third exhibited crash rates above the statewide median, and more than one-third showed speeding problems. This convergence of feasibility and opportunity indicates substantial potential for targeted infrastructure investment that simultaneously addresses multiple policy objectives.

Several methodological innovations distinguish this framework from previous screening efforts. The integration of the National Performance Management Research Data Set (NPMRDS) speed observations, encompassing over 1.2 billion probe vehicle measurements across three yrs. provides unprecedented insight into speeding behavior at scale. The spatial matching algorithm developed to assign Traffic Message Channel (TMC) codes to road segments based on geometric constraints provides a replicable approach for integrating probe vehicle data with existing roadway inventories. The active transportation investment scoring framework, derived from anonymized mobility data, enables demand-based prioritization that reflects actual short-distance travel patterns, combined with crash history and facility inventory data. The parking opportunity index provides a data-driven proxy for parking demand in the absence of comprehensive utilization surveys, adaptable to specific land use concerns. Finally, the crash analysis methodology, employing buffer-based spatial attribution, exposure normalization, and severity stratification, ensures that safety priorities reflect corridor-level risk.

The safety implications are substantial. The identification of 2,570 lane-reduction-feasible segments with elevated crash rates (165.8 mi.) provides actionable targets for

Vision Zero implementation. Based on the established crash modification factors documented in the literature, implementation on these priority segments could prevent an estimated 19 to 47% of crashes and 41 to 59% of injury crashes, representing potentially hundreds of crashes and dozens of serious injuries annually. The speeding analysis identified 854 lane-reduction-feasible segments with above-median speeding rates (58.1 mi.), targeting corridors where traffic calming benefits would be most significant.

The framework's scalability and transferability represent important contributions to the practice. The methodology is reproducible in other states: NPMRDS is available nationwide in the U.S.; anonymized mobility data are increasingly accessible; crash data are maintained by all state DOTs; and parking data can be obtained from OpenStreetMap and SafeGraph. The framework's alignment with Louisiana DOTD Minimum Design Guidelines demonstrates how best national practices can be tailored to state-specific design standards while maintaining consistency with federal guidance.

The comparative review of previously completed projects and planned or proposed opportunities finds that Louisiana has substantial experience with road-diet–type projects and a strong but imperfect alignment between data-driven screening results and locally identified priorities. More than 50 completed lane reconfiguration projects, primarily located in Orleans Parish, demonstrate consistent outcomes, such as the addition of bicycle facilities and reallocation of excess roadway capacity, including several conversions from six to four or five lanes. Meanwhile, 527 candidate segments identified in local plans show moderate overall agreement (approximately 47%) with the feasibility screening, with higher alignment in South Central and Northwest Louisiana than in Orleans Parish. Discrepancies are largely attributed to gaps or inconsistencies in underlying roadway data and differing assumptions about feasibility on local versus state roadways. The review also highlights that the screening tool can effectively identify many previously completed projects as feasible, supporting its validity, but is less reliable in cases involving data limitations, divided roadways, or non-traditional configurations. Overall, the findings suggest the screening approach is a useful but data-sensitive tool that can complement local planning efforts while underscoring the need for more complete and up-to-date roadway data.

Several limitations warrant acknowledgment. First, data completeness varied substantially: while traffic volume coverage exceeded 99%, lane width data were available for only 20.2% of segments, and speed observations were available for only 2.48% of all segments, or 31.6% of arterials and collectors. This may introduce geographic bias toward higher-volume urban corridors. Second, the screening represents

a “first pass” for evaluation; in many cases, additional corridor-level analysis will be required to conclusively affirm feasibility and need, as well as to refine the additional facilities most appropriate for any space freed up by lane reconfiguration. Additional factors to consider in secondary screening include intersection left-turning volume, level of service (LOS), travel delay, and other localized operational characteristics. In some cases, roadways that were eliminated from feasibility based on general characteristics that typically inhibit feasibility (e.g., one-way roads) could, in specific local circumstances (e.g., multi-lane streets in a “couplet” configuration), be strong candidates for road diets. Third, the parking index relies on restaurant locations as a proxy for commercial demand; a comprehensive assessment would benefit from including retail, entertainment, and other trip attractions. Finally, the analysis does not account for induced demand effects or longer-term land-use feedback following implementation.

In conclusion, this research establishes a replicable framework for statewide road diet screening that combines regulatory compliance, technical feasibility, and evidence-based opportunity assessment. The framework’s application in Louisiana identified over 3,600 mi. of potential road diet treatments, with priority corridors demonstrating the convergence of feasibility and documented needs across safety, mobility, and economic dimensions. By demonstrating how emerging datasets can enhance traditional screening approaches, this work provides a pathway for transportation agencies to systematically identify and prioritize road diet investments that advance multiple policy objectives while maintaining alignment with state design standards and engineering best practices.

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Recommendations

Establish consistent statewide guidance and a data-driven screening framework: Building on this study, Louisiana could develop clear, standardized policies and procedures to guide road diet implementation, aligned with guidance from the Federal Highway Administration. This includes formalizing and/or adapting the use of the screening framework outlined in Figure 1 of this study for use in project identification and prioritization, including but not limited to typical 4-3 lane conversions, as well as ensuring consistency across DOT manuals, design guidance, and planning documents. Providing a transparent, repeatable process for local agencies to request and evaluate road diet projects will help reduce institutional barriers and support more data-driven decision making. This may include publication of a beta version of the results of this study on a public-facing active transportation data dashboard for broader stakeholder review, along with a mechanism for soliciting ongoing feedback, as well as development of a guide for local agencies summarizing the data inputs needed and key factors to consider when evaluating potential road diet projects.

Integrate road diets into pavement preservation and routine project delivery: Road diets could be systematically considered during resurfacing and pavement preservation projects to leverage cost efficiencies and reduce implementation barriers. This will require improved coordination between pavement management and multimodal planning, as well as the inclusion of multimodal design expertise in resurfacing teams. Developing multi-year project pipelines can support more strategic corridor-level planning and allow sufficient time for public engagement, which is often a key challenge in implementing roadway reconfigurations. It should be noted that a traffic study consistent with DOTD's Intersection Control Evaluation Policy remains required before any geometric change, and that the screening results serve as a prioritization input, not a substitute for corridor-level engineering analysis.

Continue to update and improve roadway network geospatial data: The comprehensiveness of this screening methodology was constrained by gaps and/or errors and omissions in underlying spatial datasets. As new, automated roadway data is collected and published, these constraints will be mitigated. However, in many cases, missing data stems from limitations of the data collection and processing technology relative to current infrastructure conditions. For example, many roads in Louisiana, especially local roads, lack centerline or edge striping and/or delineation of on-street

parking areas. As a result, ARAN data cannot provide accurate estimates of lane or shoulder width, a critical input for the screening. Additionally, the currently published versions of the ARAN data do not include information on bikeway markings and cannot detect accessibility deficiencies in the pedestrian network (e.g., substandard sidewalk widths). The integration and publication of additional datasets, locally derived and/or related to ADA transition plan implementation or other DOTD efforts, can help address these limitations and facilitate a more robust, accurate opportunity screening.

Expand post-implementation evaluation and long-term data collection: There is a need for more robust and consistently published evaluations of completed road diet projects. Louisiana may want to prioritize before-and-after data collection and long-term monitoring of safety, operations, and multimodal use, including on lower-volume roadways and at intersections where data are often limited. Building on the preliminary inventory of completed and planned road diet projects developed through this study, a centralized dataset of project outcomes would support more reliable screening, design refinement, and performance tracking over time.

Advance research on economic impacts, parking, and non-traditional applications: Future research should focus on better understanding the broader impacts of road diets, including effects on business activity, property values, and parking demand. Expanding parking demand analyses across different land use contexts while accounting for both on-street and off-street supply would improve impact forecasting. In parallel, targeted research on non-standard road diet configurations represents an opportunity for Louisiana to help fill a notable gap in the existing literature and practice.

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Acronyms, Abbreviations, and Symbols

Term	Description
AADT	Annual Average Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
ADA	Americans with Disabilities Act
ADT	Average Daily Traffic
ARAN	Automated Road Analyzer
CARTS	Center for Analytics and Research in Transportation Safety
cm	centimeter(s)
CMF	Crash Modification Factor
CTRE	Center for Transportation Research and Education
DHV	Design Hourly Volume
DOTD	Louisiana Department of Transportation and Development
DVRPC	Delaware Valley Regional Planning Commission
EDSM	Engineering Directives and Standards Manual
FDOT	Florida Department of Transportation
FHWA	Federal Highway Administration
ft.	foot (feet)
GIS	Geographic Information System
in.	inch(es)
IQR	Interquartile Range
ITE	Institute of Transportation Engineers
lb.	pound(s)
LOS	Level of Service
LR	Lane Reduction
LRSID	Louisiana Road Segment Identifier
LTRC	Louisiana Transportation Research Center
LWA	Lane Width Adjustment
m	meter(s)

mi.	mile(s)
MDG	Minimum Design Guidelines
MDOT	Michigan Department of Transportation
MNOB	Moving New Orleans Bikes
mph	miles per hour
NLCOG	Northwest Louisiana Council of Governments
NPMRDS	National Performance Management Research Data Set
OSM	OpenStreetMap
PHV	Peak Hour Volume
PI	Parking Index
POI	Points of Interest
PRR	Pavement Resurfacing and Restoration
PROWAG	Public Right-of-Way Accessibility Guidelines
RDM	Road Design Manual
ROW	Right-of-Way
SCPDC	South Central Planning and Development Commission
SHSP	Strategic Highway Safety Plan
SR	Speeding Ratio
TDOT	Tennessee Department of Transportation
TMC	Traffic Message Channel
TWLTL	Two-Way Left-Turn Lane
VDOT	Virginia Department of Transportation
VISSIM	Traffic Simulation Software
VMT	Vehicle Miles Traveled
vph	vehicles per hour
vphpl	vehicles per peak hour per lane
VRU	Vulnerable Road Users

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Appendix A: Literature Review

This information is outlined in a separate Excel worksheet. For access, please contact the LTRC Publications Manager.

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Appendix B: Data Dictionary

#	Column Name	Feature Type	Description	Used in
	Core Identification & Context			
1	**FID_**	Line	Feature ID: Unique identifier for each 0.1-mile segment (1 to 1,868,280). Primary key for joining datasets.	Road Diet Feasibility Analysis, Crash Reduction Opportunity, Speed Reduction Opportunity
2	**seg_id**	Line	Unique segment identifier (1 to 1,868,280). Equivalent to FID_ in the parking output.	Parking Opportunity
3	**OBJECTID**	Line	Original object ID from the source GIS data.	Parking Opportunity
4	**length**	Line	Segment Length (miles): Actual measured length of the road segment. Most segments ≈ 0.1 mi.	Crash Reduction Opportunity
5	**Functional**	Line	Functional Classification: 1=Interstate (excluded), 2=Principal Arterial Other, 3=Principal Arterial, 4=Minor Arterial, 5=Major Collector, 6=Minor Collector, 7=Local.	Road Diet Feasibility Analysis

#	Column Name	Feature Type	Description	Used in
6	**UrbanRural**	Line	Context: ‘U’=Urban, ‘R’=Rural. Determines applicable design standards.	Road Diet Feasibility Analysis, Parking Opportunity
7	**PublicPriv**	Line	Ownership: 0=Public, 1=Private, 2=Undetermined. Private roads (1) are blocked from LR feasibility.	Road Diet Feasibility Analysis
8	**RoadUse**	Line	Directionality: 0=Two-way, 1=One-way. One-way roads (1) are blocked from standard LR evaluation.	Road Diet Feasibility Analysis
	Traffic Volume			
9	**AADT**	Line	Average Annual Daily Traffic (vehicles/day): Total daily traffic volume averaged over a year. Primary exposure metric.	Road Diet Feasibility Analysis, Crash Reduction Opportunity, Speed Reduction Opportunity, Parking Opportunity
10	**KFactor**	Line	Design Hour Factor (proportion): Proportion of AADT occurring during peak hour (typically 0.08–0.12).	Road Diet Feasibility Analysis

#	Column Name	Feature Type	Description	Used in
11	**DHV**	Line	Design Hourly Volume (vehicles/hour): Peak hour traffic volume. Formula: AADT × KFactor.	Road Diet Feasibility Analysis
12	**ThroughLan**	Line	Number of Through Lanes: Excludes turn lanes. Required ≥ 3 for LR feasibility.	Road Diet Feasibility Analysis
13	**vphpl**	Line	Volume Per Hour Per Lane (veh/hr/lane): DHV normalized by lane count. Threshold: ≤ 875 for LR feasibility.	Road Diet Feasibility Analysis
14	**note**	Line	Traffic Feasibility Note: ‘feasible’, ‘750<vphpl<875’, ‘vphpl>=875’ (blocked), or ‘No DHV’.	Road Diet Feasibility Analysis
	Geometric Attributes			
15	**LaneWidth**	Line	Average Travel Lane Width (feet): Existing lane width measured.	Road Diet Feasibility Analysis
16	**ShoulderIn**	Line	Inside Shoulder Width (feet): Shoulder or offset between opposing travel lanes.	Road Diet Feasibility Analysis
17	**ShoulderOu**	Line	Outside Shoulder Width (feet): Shoulder on outside edge of roadway.	Road Diet Feasibility Analysis

#	Column Name	Feature Type	Description	Used in
18	**CurbInside**	Line	Inside Curb Presence: 1=None, 2=Unprotected, 3=Curbed, 4=Barrier Unspecified, 5=Flexible, 6=Semi-Rigid, 7=Rigid.	Road Diet Feasibility Analysis
19	**CurbOutsid**	Line	Outside Curb Presence: Same coding as CurbInside.	Road Diet Feasibility Analysis
20	**MedianType**	Line	Median Configuration: 1=None, 2=Unprotected (≥ 4 ft), 3=Curbed, 4–7=Barrier types.	Road Diet Feasibility Analysis
21	**TurnLanesL**	Line	Left Turn Lane: 1=No intersections, 2=Multiple exclusive, 3=Continuous exclusive (LR blocker), 4=Single, 5=No exclusive, 6=No turns peak.	Road Diet Feasibility Analysis
22	**Parking**	Line	On-Street Parking: 1=One side, 2=Both sides, 3=None.	Road Diet Feasibility Analysis
	Speed Limit			
23	**MaxSpeed**	Line	Design/Regulatory Speed (mph, 0–75): From DOTD road inventory. 0=missing. Imputed from Speedsign where missing.	Road Diet Feasibility Analysis, Speed Reduction Opportunity, Parking Opportunity

#	Column Name	Feature Type	Description	Used in
24	**Speedsign**	Point	Posted Speed Limit (mph, 15–75): From DOTD field inventory. Used to fill missing MaxSpeed.	Road Diet Feasibility Analysis, Speed Reduction Opportunity
25	**SpeedLim**	Line	Assigned Speed Limit (mph, 15–75): Unified field for speeding calculations. Hierarchy: (1) Speedsign, (2) MaxSpeed.	Speed Reduction Opportunity
26	**speed_limit**	Line	Speed Limit (Duplicate): Copy of SpeedLim created during processing.	Speed Reduction Opportunity
	Calculated Width			
27	**CurrentWidth**	Line	Current Total Width (feet): Existing paved width. Formula: ThroughLan × LaneWidth + ShoulderIn + ShoulderOu.	Road Diet Feasibility Analysis
28	**LaneMin**	Line	Minimum Lane Width (feet): Louisiana state minimum design guideline (9–12 ft) based on Functional, UrbanRural, AADT, MaxSpeed.	Road Diet Feasibility Analysis
29	**ShoulInDes**	Line	Design Inside Shoulder Width (feet): Louisiana state minimum design guideline (0–4 ft).	Road Diet Feasibility Analysis

#	Column Name	Feature Type	Description	Used in
30	**ShoulOuDes**	Line	Design Outside Shoulder Width (feet): Louisiana state minimum design guideline (1–8 ft).	Road Diet Feasibility Analysis
31	**TotWidDes**	Line	Total Design Width (feet): Minimum required width. Formula: LaneMin × ThroughLan + ShoulInDes + ShoulOuDes.	Road Diet Feasibility Analysis
32	**ExtraSpace**	Line	Extra Space Available (feet): Surplus width. Formula: CurrentWidth − TotWidDes. Threshold: ≥ 4 ft for LA feasibility.	Road Diet Feasibility Analysis
	Contextual Flags			
33	**Transit**	Line	Transit Route: 0=No, 1=Yes. Triggers ‘Warning’ flag (non-blocking).	Road Diet Feasibility Analysis
34	**BatonTruck**	Line	Baton Rouge Truck Route: 0=No, 1=Yes. Triggers ‘Warning’ flag.	Road Diet Feasibility Analysis
35	**NewOLTruck**	Line	New Orleans Truck Route: 0=No, 1=Yes. Triggers ‘Warning’ flag.	Road Diet Feasibility Analysis

#	Column Name	Feature Type	Description	Used in
36	**StateTruck**	Line	State Truck Network: 0=Not designated, 1=National, 2=Other State. Non-zero triggers ‘Warning’.	Road Diet Feasibility Analysis
	Feasibility Classification			
37	**Feasibility**	Line	Concatenated Feasibility Tags: Comma-separated list — ‘Feasible’, ‘No-LR’, ‘Yes-LaneWidthAdjustment’, ‘No-LaneWidthAdjustment’, ‘Warning’, ‘Unclassified’.	Road Diet Feasibility Analysis, Active Transportation Opportunity, Speed Reduction Opportunity, Crash Reduction Opportunity, Parking Opportunity
38	**LR_Symbol**	Line	Lane Reduction Symbology: ‘Feasible’, ‘No-LR’, or blank.	Road Diet Feasibility Analysis, Active Transportation Opportunity, Crash Reduction Opportunity, Speed Reduction Opportunity, Parking Opportunity

#	Column Name	Feature Type	Description	Used in
39	**LA_Symbol**	Line	Lane Width Adjustment Symbology: ‘Yes-LaneWidthAdjustment’, ‘No-LaneWidthAdjustment’, or blank.	Road Diet Feasibility Analysis, Active Transportation Opportunity, Crash Reduction Opportunity, Speed Reduction Opportunity, Parking Opportunity
	Active Transportation			
40	**InvScore**	Line	Active Transportation Inventory Score: Composite demand/safety/equity metric. Higher = greater priority.	Road Diet Feasibility Analysis, Active Transportation Opportunity
41	**LR_Priority**	Line	Lane Reduction Priority: ‘First-LR’ (InvScore ≥ 0.2994), ‘Second-LR’, or empty.	Road Diet Feasibility Analysis, Active Transportation Opportunity
42	**LA_Priority**	Line	Lane Width Adjustment Priority: ‘First-LA’ (InvScore ≥ 0.2994), ‘Second-LA’, or empty.	Road Diet Feasibility Analysis, Active Transportation Opportunity

#	Column Name	Feature Type	Description	Used in
	Crash Analysis			
43	**Crashes_**	Point	Crash point locations (2022–2024) from Louisiana's CARTS database. Filtered to road-diet-relevant crash types: rear-end (200), sideswipe (300), head-on (502, 505), and angle (100, 101, 102, 500, 501). 253,664 filtered records with latitude/longitude coordinates in EPSG:4326.	Crash Reduction Opportunity
44	**crash_coun**	Line	All-Crash Count: Total crashes within 0.1-mi buffer, 2022–2024. Road-diet-relevant types only.	Crash Reduction Opportunity
45	**inj_count**	Line	Injury+Fatal Crash Count: Crashes with severity K, A, B, or C within buffer, 2022–2024.	Crash Reduction Opportunity
46	**InjuryRate**	Line	Injury+Fatal Crash Rate (per 100M VMT). Formula: (inj_count × 10^8) / (AADT × 365 × 3 × 0.1).	Crash Reduction Opportunity
47	**AllCrashRa**	Line	All-Crash Rate (per 100M VMT). Formula: (crash_coun × 10^8) / (AADT × 365 × 3 × 0.1).	Crash Reduction Opportunity
48	**CrashP_LR**	Line	All-Crash Priority for LR-Feasible: 'First' (≥ 3,345.209), 'Second', or blank.	Crash Reduction Opportunity

#	Column Name	Feature Type	Description	Used in
49	**CrashP_LA**	Line	All-Crash Priority for LA-Feasible: ‘First’ (≥ 3,345.209), ‘Second’, or blank.	Crash Reduction Opportunity
50	**InjuryP_LR**	Line	Injury Priority for LR-Feasible: ‘First’ (≥ 1,670.565), ‘Second’, or blank.	Crash Reduction Opportunity
51	**InjuryP_LA**	Line	Injury Priority for LA-Feasible: ‘First’ (≥ 1,670.565), ‘Second’, or blank.	Crash Reduction Opportunity
	Speeding Analysis			
52	**tmc22**	Line	TMC Code for 2022: Traffic Message Channel identifier. Format: 113±NNNNN.	Speed Reduction Opportunity
53	**tmc23**	Line	TMC Code for 2023. Codes may change between years.	Speed Reduction Opportunity
54	**tmc24**	Line	TMC Code for 2024.	Speed Reduction Opportunity
55	**speedingrate22**	Line	2022 Speeding Rate (0–1): Proportion of observations exceeding SpeedLim + 5 mph.	Speed Reduction Opportunity

#	Column Name	Feature Type	Description	Used in
56	**TotalObs22**	Line	2022 Total Observations: Valid speed observation count for 2022.	Speed Reduction Opportunity
57	**meanS22**	Line	2022 Mean Speed (mph): Average observed speed (harmonic mean by INRIX).	Speed Reduction Opportunity
58	**speedingrate23**	Line	2023 Speeding Rate (0–1): Same formula as speedingrate22.	Speed Reduction Opportunity
59	**TotalObs23**	Line	2023 Total Observations.	Speed Reduction Opportunity
60	**meanS23**	Line	2023 Mean Speed (mph).	Speed Reduction Opportunity
61	**speedingrate24**	Line	2024 Speeding Rate (0–1): Same formula as speedingrate22.	Speed Reduction Opportunity
62	**TotalObs24**	Line	2024 Total Observations.	Speed Reduction Opportunity

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#	Column Name	Feature Type	Description	Used in
63	**meanS24**	Line	2024 Mean Speed (mph).	Speed Reduction Opportunity
64	**gap22_mph**	Line	2022 Speed Gap (mph): meanS22 − SpeedLim. Negative = below limit; positive = above.	Speed Reduction Opportunity
65	**gap22_abs_mph**	Line	2022 Absolute Speed Gap (mph): |gap22_mph|.	Speed Reduction Opportunity
66	**gap23_mph**	Line	2023 Speed Gap (mph): meanS23 − SpeedLim.	Speed Reduction Opportunity
67	**gap23_abs_mph**	Line	2023 Absolute Speed Gap (mph).	Speed Reduction Opportunity
68	**gap24_mph**	Line	2024 Speed Gap (mph): meanS24 − SpeedLim.	Speed Reduction Opportunity
69	**gap24_abs_mph**	Line	2024 Absolute Speed Gap (mph).	Speed Reduction Opportunity

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#	Column Name	Feature Type	Description	Used in
70	**speedingrate_all3**	Line	3-Year Weighted Average Speeding Rate (0–1): PRIMARY METRIC. Weighted by observation counts across 2022–2024. Median = 0.059805.	Speed Reduction Opportunity
71	**LR_Priorit**	Line	Speeding Priority for LR-Feasible: ‘First’ (≥ 0.059805), ‘Second’, ‘Low’/blank.	Speed Reduction Opportunity
72	**LA_Priorit**	Line	Speeding Priority for LA-Feasible: ‘First’ (≥ 0.059805), ‘Second’, ‘Low’/blank.	Speed Reduction Opportunity
	Parking Index			
73	**Restaurants_polygons_**	Polygon	Restaurant location polygons sourced from SafeGraph POI data. 20,654 commercial restaurant footprints used as proxy for parking demand within 0.25-mile segment buffers.	Parking Opportunity
74	**ParkingPolygons_**	Polygon	Off-street parking facility polygons sourced from OpenStreetMap. 114,045 parking lot and facility polygons used to measure parking supply within 0.25-mile segment buffers.	Parking Opportunity

#	Column Name	Feature Type	Description	Used in
75	**Rest_area_m2**	Line	Restaurant Area in Buffer (m²): Total restaurant polygon area within 0.25-mile buffer.	Parking Opportunity
76	**Park_area_m2**	Line	Parking Area in Buffer (m²): Total off-street parking polygon area within 0.25-mile buffer.	Parking Opportunity
77	**Parking_Index**	Line	Parking Supply Ratio: Park_area_m2 / Rest_area_m2. NaN if no restaurants. (Named 'Park_Index' in parking output.)	Parking Opportunity
78	**Parking_Priority**	Line	Parking Conflict Priority: 'First' (no parking), 'Second' (low parking), 'No Need'/'Other', 'No Restaurants'/'None'.	Parking Opportunity
79	**Parking Buffers**	Polygon	The 0.25-mile buffers around each segment.	Parking Opportunity
	Data Quality			
80	**MissingData**	Line	Missing/Zero Critical Fields: Comma-separated list of fields with NaN or zero. Blank = complete data.	Road Diet Feasibility Analysis

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Appendix C: Existing and Potential Road Diet Corridor Inventory

This information is outlined in a separate Excel worksheet. For access, please contact the LTRC Publications Manager.

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