



Paul R. LePage
GOVERNOR

David Bernhardt
COMMISSIONER

Title: MaineDOT Guidelines to Implement a Road Diet or Other Features Involving Traffic Calming

Discipline: General Engineering

Originators: Matt Philbirck and Stephen Landry

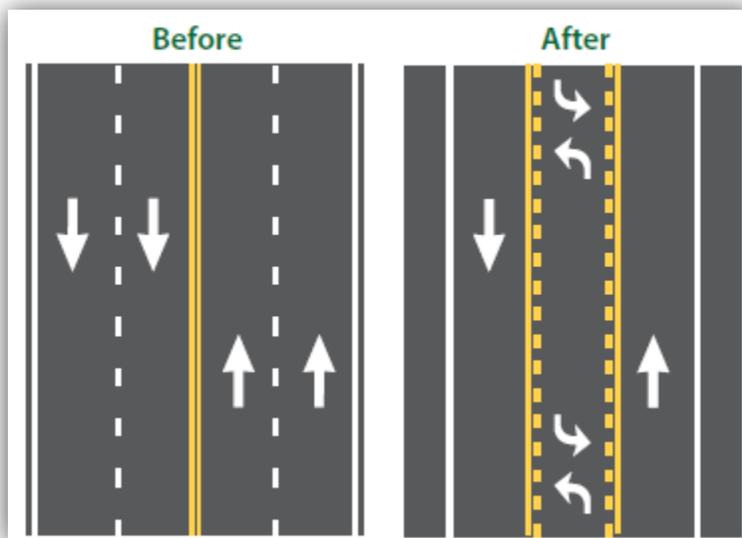
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What is a Road Diet?

A Road Diet is generally described as "removing travel lanes from a roadway and utilizing the space for other uses and travel modes." This guide will focus on the most common Road Diet reconfiguration, which is the conversion of an undivided four lane roadway to a three-lane undivided roadway made up of two through lanes and a center two-way left-turn lane (TWLTL). The reduction of lanes allows the roadway cross section to be reallocated for other uses such as bike lanes, pedestrian refuge islands, transit uses, and/or parking. Other configurations are possible, and can be viewed in the FHWA Road Diet Informational Guide (see link at bottom of the document).

Typical Road Diet Basic Design



Municipalities may petition the Department to make changes to the roadway system to correct deficiencies in the operation of the roadway. A road diet is a potential solution to many safety and modal issues and is to be considered as

a potential solution to those issues. Municipalities seeking improvements to their roadways beyond surface pavement treatment shall follow the steps below to be considered for those improvements.

Purpose and Need and Alternative Analysis

In accordance with federal NEPA requirements, each project must have a defined purpose and need to be evaluated by a reasonable range of alternatives including a no build option. A study should not be done to justify a single alternative. It must include an analysis, performed by qualified staff or consultants, to evaluate the performance, benefits and costs associated with multiple alternatives. For instance, a study's purpose and need could be to improve bicycle and pedestrian safety without adverse effects to mobility at a given intersection. Purpose and need could include but is not limited to one or more of the following:

- Improve safety (mitigation of rear end, sideswipe, and other crash patterns which are correctable by a Road Diet type project)
- Reduce speeds
- Mitigate queues/conflicts associated with left-turning traffic
- Improve pedestrian environment
- Improve bicyclist accessibility/safety

The municipality may also make a request that the road diet take place as a trial/interim measure before the Department comes through with a project or in the case of a project built over multiple years, as an interim measure between binder and surface layers. This would allow time for public feedback on the Road Diet. Trial/interim project can be done on old pavement only if there is an imminent plan to overlay the area within a year. Lines that have been ground off show up more than some stripes do, so it would cause driver confusion to maintain the road diet without performing an overlay through the area.

MaineDOT Design Guidance

Analysis must consider MaineDOT input and guidance, and where relevant use MaineDOT engineering policies and procedures. Traffic data collection must conform with MaineDOT policies and take into account seasonal variation and heavy vehicle information needed for pavement design. This includes provisions for adequate turning radii at intersections and access to commercial properties. In accordance with MaineDOT's practical design philosophy, the applicant shall identify potential design exceptions and impacts to abutting properties in order to justify their proposed template design.

MaineDOT Staff Role

MaineDOT staff members are available to provide training, review materials and provide technical assistance.

Limitations

Traffic Calming may be an alternative used to address several transportation needs, such as those listed above. Traffic Calming can improve safety and accommodate motorized and non-motorized transportation modes along a corridor, although it may not be appropriate or feasible in all locations. One of many traffic calming alternatives, a Road Diet can have a large impact on a corridor. While there are many benefits to a Road Diet type project, they may not be applicable in all situations. A Road Diet may not be feasible if one or more of the following is true:

- Traffic volume exceeds 20,000 to 25,000 AADT (Annual Average Daily Traffic), depending on conditions

- LOS (Level of Service)/travel time is significantly impacted – minimum LOS for signalized intersections typically must be D or better based on Highway Capacity Manual methodologies, but may vary depending on Highway Corridor Priority or desired Customer Service Levels.
- Un-signalized intersections/existing business/driveway entrances have overlapping left-turn paths between the main street and adjacent access points
- Adequate space does not exist for midblock transitions between intersections or high-volume access points to allow for a proper transition from four lanes to three lanes.
- **If a municipality is considering a Road Diet on a roadway and the road diet abuts an adjacent municipality, both municipalities need to be involved in the submittal of the request.**

Other Considerations

- Will these improvements be made as part of a mill and fill type project, or will they require a shim/overlay to achieve desired crown/shoulder break?
- Are there going to be impacts to existing turn lanes, business/driveway entrances, signals, intersection geometry, islands, bus stops, drainage and other utilities, etc.? If so, can these be changed as part of the corridor improvements?
- Will bike/ped improvements be made as part of the project? Consider midblock cross pedestrian refuge islands, bike lanes, etc., where appropriate.
- If there will be long stretches of turn lanes with no points of access, can the center turn lane be eliminated for that stretch (or replaced with islands, pedestrian refuges, etc.)?

Minimum Study Requirements

- Safety Benefits shall be evaluated using MaineDOT methods based on the Highway Safety Manual and other standard procedures for evaluating crash modification and reduction.
- Capacity and Level of Service (LOS) performance will be measured using Highway Capacity Manual criteria. Non-signalized intersections and corridors shall be analyzed using HCM methods, while signalized intersections and corridors shall be modelled using Synchro/Sim-Traffic.
- Calculation of the LOS changes for AM and PM peaks will be based on the future design year, defined as the year of the proposed next scheduled pavement treatment.
- The public shall have an opportunity to give input on any proposed alternatives.
- The municipality is responsible for paying for any changes beyond the original project scope (additional striping, signal changes, additional ADA changes, islands, access changes, etc.).

Decisions on allowing a road diet will be made by the **Chief Engineer or designee** based on the benefits of the proposal, taking into account Customer Service Levels (CSL) and Highway Corridor Priority (HCP)

Approval

Unless waived by MaineDOT's Chief Engineer, MaineDOT will require a transportation analysis for any corridor proposed for a road diet or other traffic calming modification. Each analysis must have a scope of work that addresses each of the headings above (Purpose and Need, Limitations, Minimum Study Requirements and Other Considerations) before MaineDOT will make a decision on the request for a road diet. MaineDOT staff will assist with scope of work preparation if requested. MaineDOT will consider whether reduced mobility is part of the Purpose and Need along with consideration of posted speed limits, Highway Corridor Priorities, Corridors of Regional and Economic Significance and Customer Service Levels. The analysis must identify impacts to safety and include traffic modeling of alternatives via

Synchro/Sim-Traffic or other MaineDOT/FHWA-approved HCM software. Within Metropolitan Planning Organization (MPO) areas, municipalities may apply for MPO funding to complete the analysis. Outside of MPO areas, municipalities may apply for funding under the state's Planning Partnership Initiative (PPI).

For more information refer to http://safety.fhwa.dot.gov/road_diets/info_guide/

Interested parties should contact the Scoping Division Manager of MaineDOT's Bureau of Planning by phone at 624-3300 or by mail to Scoping Division Manager, Bureau of Planning, 16 State House Station, Augusta, ME 04333.