**Does Your Road Need To Go On A Diet?**

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**What is a “Road Diet”?**

"Reconfiguring the existing cross section (travel lanes) and utilizing the space for other uses such as bike lanes, parking, transit stops, etc."

**A typical Road Diet converts an existing four-lane undivided roadway to two through lanes and a center two-way left-turn lane (TWLTL)**

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**A Typical Road Diet**

On many four-lane undivided highways the two inside lanes have frequent left-turning vehicles and are not effectively used by the through traffic.

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**Common Characteristics**

- Utilize existing footprint
- Rebalance / reallocate street space to add features such as:
  - Two-way left-turn lane (TWLTL)
  - Bike Lanes
  - On-street Parking
  - Buffer Zones
  - Landscaping
  - Etc....

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**Other Reconfigurations**

- **4-Lane to 5-Lane**
- **2-Lane to 3-Lane**
- **3-Lane to 3-Lane**
- **5-Lane to 3-Lane**

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**Why? – To Improve Safety !!!**

- Four-lane undivided highways have relatively high crash rates
- Inside lanes are shared by higher speed through traffic and left-turning vehicles
4-Lane Undivided Highways

Left-turning vehicles stopped in the inside travel lane are at risk for rear-end collisions.

4-lane Undivided Highways

Frequent and sudden lane changing between the two through lanes contributes to sideswipe and rear-end collisions.

4-Lane Undivided Highways

Left-turning drivers may make poor judgements in gaps or feel pressure to vacate the lane contributing to angle collisions.

These safety problems become more evident as traffic volumes and turning movements increase.

Increased Separation

Stopped or Stalled Vehicle

Credit: Google Maps

Left turners
Right turners
Lane Changers
Dedicated Left Turn Lane

Sight Lines – Major Road

Sight Line – Left Turn from Minor Street

Improved Sight Lines at Unsignalized Crosswalks
Pedestrian Refuge Islands

- Can use the TWLTL space where turns are prohibited or at mid-block locations

Safety Benefits

Based on safety studies, installing a Road Diet has an expected crash reduction of 19-47% *

* CRFs based on Fhwa 2010 study: variables affecting safety effectiveness include pre-installation crash history, installation details, traffic volumes, and the urban or rural nature of the corridor

FHWA Resources

http://safety.fhwa.dot.gov/road_diets/info_guide/

ROAD DIET

Safety I Livability I Low Cost

Myth: Road Diets Make Traffic Worse

A common misperception is that reducing the number of through lanes by implementing a Road Diet will cause traffic to become more congested.

FACT: Under certain conditions, Road Diets may maintain a roadway’s “effective capacity” and may even reduce travel times within the corridor.

As driveway and intersection density increases…

- defacto three lane operations
- *Lane changes increase
- Capacity decreases
- Crash rates increase

A Road Diet may be the solution

Intersection Operations

- The “capacity” of a street is determined by the operations at its signalized intersections (or stop-controlled).

Unless the street has 3x as many lanes at the intersections as it has mid-block, the intersections will be the limiting factor in terms of capacity.
Example of increasing number of lanes at signalized intersections

Converting four through lanes to two through lanes may make it possible to install dedicated turn lanes at the intersection.

Examples of Transitions - Dedicated LTL and TWLTL (Urban)

Example of transition from four lane to TWLTL (rural setting to small city)

Examples of 4 to 3 Transitions

Example of transition from four lane to TWLTL (rural setting to small city)

Turn Lane Reconfigurations and Signal Timing Changes

By carefully analyzing and improving operations at intersections it may be possible to reduce the number of lanes mid-block on a street without increasing delay for motor vehicle traffic.

Road Diets and Roundabouts

North Decatur Rd – Decatur, GA
Myth: Road Diets are only applicable to “low” volume roads.

FACT: Road Diets can be successful for a broad range of traffic volumes.

General Guidelines for Traffic Volumes

<table>
<thead>
<tr>
<th>Traffic Volume</th>
<th>Road Diet Suitability</th>
</tr>
</thead>
<tbody>
<tr>
<td>LESS THAN 10,000 ADT</td>
<td>Great candidate for Road Diet</td>
</tr>
<tr>
<td>10,000 – 15,000 ADT</td>
<td>Very good candidate for Road Diet</td>
</tr>
<tr>
<td>15,000 – 20,000 ADT</td>
<td>Good candidate for Road Diet</td>
</tr>
<tr>
<td>GREATER THAN 20,000 ADT</td>
<td>Potential candidate for Road Diet</td>
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</tbody>
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Agencies should conduct intersection analysis to study potential traffic operational effects and consider signal retiming as needed. Agencies should conduct a corridor analysis since traffic operations may be affected at this volume depending on the “before” condition.

There are examples across the country where Road Diets have been successful with ADTs as high as 26,000.

Myth: Road Diets increase emergency response times.

FACT: Road Diets can improve emergency response times.

Emergency Response Vehicles

Before

A free road struggling to find a path.

After

A new road navigable two-way left-turn lane.

Four-lane undivided roads can be awkward for emergency responders and can slow response times.

Drivers in inside lanes are often uncertain about where to go to allow emergency responders to pass.

Myth: Road Diets should be used everywhere!!!

FACT: There are many items to consider before implementing a Road Diet.

Resources

One-Day Road Diet Workshop
Coming May 11, 2017
Top Eight Reasons to go on a Road Diet

1. They are shown to reduce crashes by 19-47%.
2. They are shown to decrease speed and calm traffic.
3. They are shown to reduce rear-end and left-turn crashes with dedicated left-turn lanes.
4. They make it easier for pedestrians to cross the street with pedestrian refuge islands and/or wider sidewalks.
5. They provide an opportunity to install bicycle facilities.
6. They can create space for on-street parking or transit stops.
7. They can improve livability with a more community-focused "complete streets" environment.
8. They are budget-friendly, especially when planned with simple curbway projects or combined with other road projects.

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