

# BAXTER & WOODMAN NEWS

Consulting Engineers

Making a positive difference through innovative engineering solutions

## Water System Operational Efficiency

# WATER ACCOUNTABILITY PORTAL

Obtaining real-time pump and water production status throughout your entire water system infrastructure opens the door to more intelligent data visibility and improved decision-making ability.

A Water Accountability Portal yields real-time information on pump status, total daily water produced, cost of energy and chemicals to produce that water, and highlights operational strategies for maximizing water production at minimal costs.

A Portal also gives the whole picture on the volume and rate at which water is being produced and consumed, and the cost and potential revenue of each. Real-time discrepancies between water produced, stored, and consumed can be quickly identified, allowing a water system owner/operator to identify leaks and other potential infrastructure failures before they become critical.

Depending on the data available, a Portal can show a variety of metrics, including:

- Electrical cost/Million Gallons/hour
- Chemical cost/Million Gallons/hour
- Well real-time power usage
- Peak Electrical Demand Period and kW – Month to Date
- Current real-time price of power vs. historical flat rate cost for the Community (for comparison)
- Real-time observed water system demand (i.e. water produced minus water metered minus water going into storage)
- Hourly or daily non-revenue water (water loss)

### WHAT A PORTAL DOES FOR YOU – SAVINGS!

Operators, financial departments, and administrators are all able to obtain secure, mobile, read-only access to the Portal to learn where and how water is being used, reconcile swings in water use, and create a more intelligent, adaptive water management plan. A Portal:

- Shows customer demands and trends.
- Acts as an easy-to-use interface for a community's staff or consultants to view near real-time water data without being in SCADA.
- Simplifies staff access to actual billed use and daily production information.

Learn more on how a Water Accountability Portal can improve efficiency and save money in your community or agency: Contact Chris Sosnowski at [csosnowski@bwcsi.com](mailto:csosnowski@bwcsi.com) or 262.763.7834.

Figure 1. Example Water Accountability Portal (User-side and Supply-side incorporated)



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# ROAD DIETS

**R**oad Diets are a safety-focused alternative to a four lane, undivided roadway. A Road Diet involves a reduction in travel lanes in order to achieve systematic improvements. A common application is to convert a four lane undivided road (two lanes in each direction, no turn lanes, and no medians) to a three lane road (one lane in each direction with a two way left turn lane). The reclaimed space can be allocated for other uses such as bike lanes, pedestrian refuge islands, bus lanes and parking. See *Exhibit A*. Road diets can reduce collisions, increase mobility and access, and improve a community's quality of life.

What are the benefits of Road Diet?

## ENHANCED VEHICLE SAFETY

- Four-lane undivided roads have the highest crash rate of any urban cross section, mainly because there is not a two way left turn lane.
- Road Diets provide a 19-47% crash reduction rate according to FHWA (See *Exhibit B*) because:
  - ◆ A Road Diet configuration encourages a reduced and uniform speed
  - ◆ Left turn lanes reduce the number of rear end crashes
  - ◆ Conflict points are reduced by 50%
  - ◆ Visibility is improved because there are less lanes to navigate

## INCREASED PEDESTRIAN SAFETY

- Road Diets reduce the pedestrian crossing width by one lane (25% reduction).
- Lower speeds reduce the severity of any pedestrian related crashes.
- Pedestrian refuge islands can further improve safety by providing protection so a pedestrian does not need to cross the entire street in one shot.

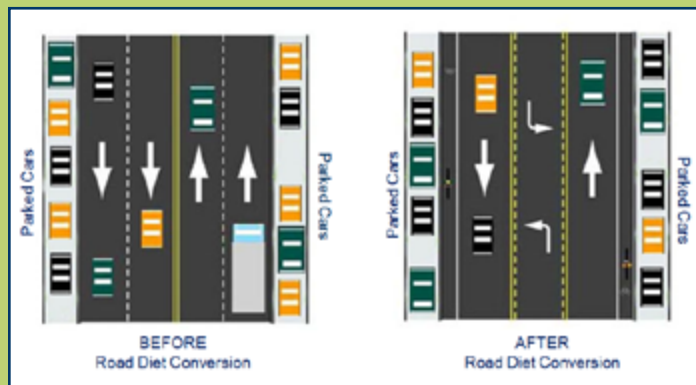


Exhibit A. Credit: <http://www.albany2030.org/road-diet>

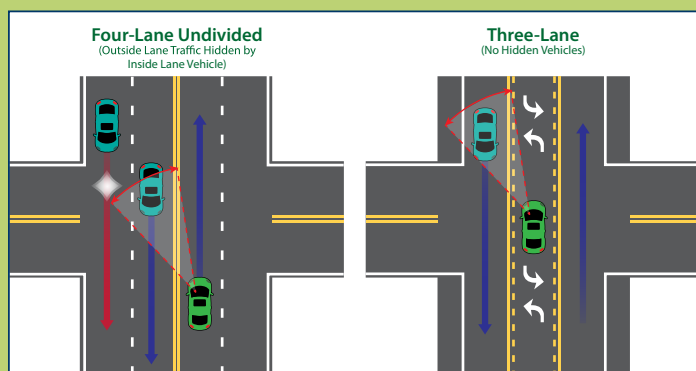


Exhibit B. Credit: [https://safety.fhwa.dot.gov/road\\_diets/info\\_guide/](https://safety.fhwa.dot.gov/road_diets/info_guide/)

## 2017 INFRASTRUCTURE REPORT CARD RELEASED

*Gain insight into the condition of infrastructure in our state and throughout the nation.*

Every four years, the American Society of Civil Engineers' (ASCE) Report Card for America's Infrastructure depicts the condition and performance of American infrastructure

Using a simple A to F school report card format, the Report Card provides a comprehensive assessment of current infrastructure conditions and needs, both assigning grades and making recommendations for how to raise the grades. An Advisory Council of ASCE members assigns the grades according to the following eight criteria: capacity, condition, funding, future need, operation and maintenance, public safety, resilience, and innovation. Since 1998, the grades have been near failing, averaging only Ds, due to delayed maintenance and underinvestment across most categories. The 2013 Report Card G.P.A. was D+.

In early March, ASCE released the 2017 Infrastructure Report Card.

Visit <http://www.infrastructurereportcard.org/> to view the Report Card. Learn what infrastructure categories have improved or declined over the past 4 years and identify which areas of infrastructure need our immediate attention.

### Road Diets Continued

- Bike lanes or on street parking further separate vehicles from pedestrians on the sidewalk, which creates more walking safety and comfort.

### IMPROVED ACCESSIBILITY AND OPERATION

- Addition or enhancement of a bike lane can increase bike ridership
- A separated left turn lane can reduce delays at signalized intersections

### BETTER QUALITY OF LIFE

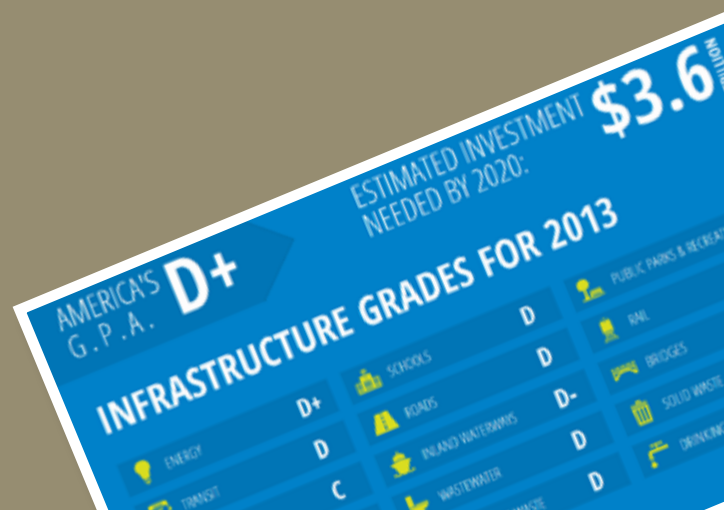
- Encourages increased user modes (vehicle, bike and pedestrian)
- Increased foot traffic and ease of access to store fronts
- Walkability is linked to increases in property value

### POTENTIALLY LOW COST

- Road diets can often be added to a resurfacing project with little additional cost, simply involving restriping the road within the limits of the existing curb
- Refuge islands, sidewalk improvements, curb bump-outs, etc. increase the cost

Interested in a Road Diet for streets in your community? Visit FHWA Every Day Counts website at <http://bit.ly/2lwNZRF> or the NACTO website <http://nacto.org/> for additional information.

To discuss whether a Road Diet is a good fit for your next road improvement project, contact Jason Fluhr at [jfluhr@baxterwoodman.com](mailto:jfluhr@baxterwoodman.com).



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## CHLORIDE REDUCTION EFFORTS BEST PRACTICES

**Many municipalities in Wisconsin have chloride limits that require specific permit actions. Chloride removal at municipal wastewater treatment plants is very expensive. A more cost-effective approach is to reduce chloride discharges at their point of origin or source.**

Source reduction options to reduce chloride include:

- Controlling chloride discharges from large commercial and industrial customers through voluntary programs or ordinance revisions. The focus for the large dischargers (generally with a 2 inch meter or greater) is to use brine regeneration coupled with demand initiated regenerations softeners.
- Improving softener efficiency for municipal drinking water facilities
- Optimizing Road Salting Practices
- Providing Public Outreach and Education.
- Residential water softeners upgrades

Baxter & Woodman has assisted many clients in identifying effective source reduction measures. Contact Jim Kleinschmidt at [jkleinschmidt@baxterwoodman.com](mailto:jkleinschmidt@baxterwoodman.com) to discuss the source reduction measures which might be most beneficial for your community.

