



COMPREHENSIVE SERVICES

Hubbell, Roth & Clark, Inc., is a professional organization providing comprehensive

engineering services. Our Transportation and Traffic Engineering expertise allow us to address problems of urban traffic congestion, traffic safety, and highway design. We provide assistance in transportation planning, design and operations. Other services of the firm include:

- Municipal Engineering
- Civil and Site Engineering
- Wastewater Treatment
- Underground Storage Tank Replacement Engineering
- Water Treatment and Distribution
- Industrial Waste Treatment
- Industrial Engineering
- Storm Water Control
- Surveying and Mapping
- Electrical Engineering
- Street and Parking Lot Lighting

Traffic Signal Improvements

It has been estimated that of the approximate 240,000 urban signalized intersections in the United States, about 148,000 need upgrading of physical equipment and signal timing optimization, while another 30,000 are in need of signal timing optimization only. Traffic signal improvements generally provide the greatest payoffs for reducing congestion on surface streets. There are a number of relatively basic improvements that can and should be made to improve traffic flow on arterials. They include:

Equipment update - In this case, an inventory of existing traffic control devices should be made to determine if new, more modern equipment can replace them. This would allow for the planning of a more comprehensive set of strategies to improve traffic flow.

Timing Plan Improvements - This action would require a data collection effort in order to update the traffic signal timing to correspond to current traffic flows. Appropriate re-timing of signals has been very successful in improving traffic flows.

Interconnected Signals - Specific improvements could include one or more of the following: interconnected pre-timed signals, traffic actuated signals, interconnected actively managed timing plans, and master controls.

Traffic Signal Removal - Many traffic signals are no longer justified in urban areas due to changes in traffic patterns. Many of these intersections can be better controlled by two-way stop control. For those situations, where peak traffic flows necessitate continued signalized control, but off-peak traffic does not, conversion of control from full to flashing operation can provide significant reductions in delay and congestion during the off-peak times. Removing traffic signals can produce reductions in vehicle delay and in unwarranted stops.

Traffic Signal Maintenance - Traffic signals are often installed with little attention given to the cost and procedures required for maintenance. This is a problem that has become particularly critical in recent years, as more sophisticated traffic control devices are installed.

There are several categories of maintenance which could be considered:

- Preventive maintenance, to be performed at regular intervals in order to avoid unnecessary problems;
- Response maintenance, which includes quick response to emergency situations as well as trouble-shooting; and
- Design modification, which deals with the need to monitor new equipment as well as signals placed in new location in order to insure safe and effective operation.

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Flashing Beacons

Flashing beacons (sometimes called flashers or flashing lights) are frequently requested in the belief that they will slow down traffic. However, the real purpose of flashers is to attract attention to unexpected hazards. The following discussion of flashing beacons is offered to clarify the real effects of flashers, and what must be considered before flashers are installed.

What are the “right” conditions for flashing lights?

A flashing beacon is most effective as a warning of unexpected or hazardous conditions not readily visible to drivers. One of the more common locations where a flashing beacon is effective is at a stop sign controlled intersection located just beyond a curve that is hidden from the view of approaching motorists.

That suggests there is a flip side, perhaps situations where a flashing beacon should not be used?

Immediately after seeing a flasher, drivers must consistently see an unusual condition which requires special attention. The condition also must be viewed as serious enough to justify having been alerted. For any traffic control device to be effective it must command the respect of motorists. If it seems arbitrary or unnecessary, drivers tend to ignore it.

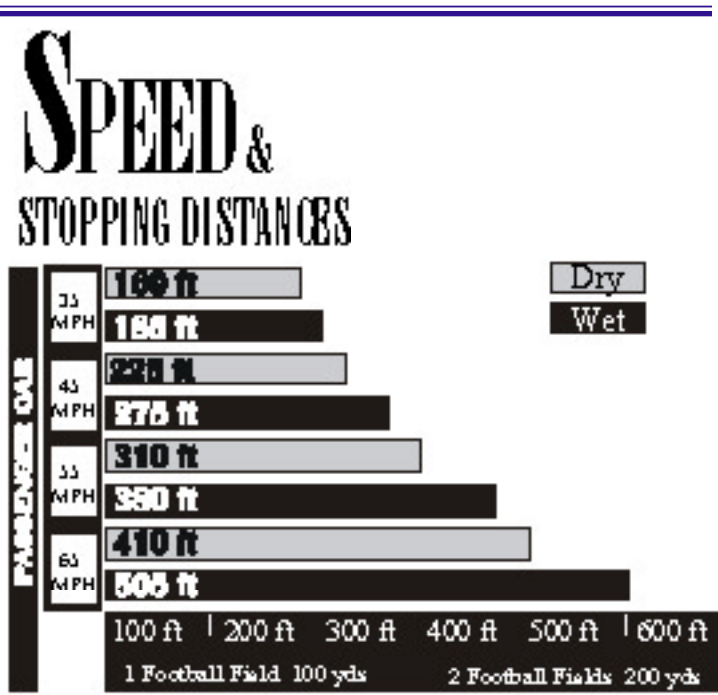
Then there are actually problems associated with the installation of unnecessary flashing beacons?

When flashing beacons are used where not warranted they soon lose much of their effectiveness. After continually being alerted to a condition which does not appear to be truly unusual,

research and experience has shown that drivers actually stop “seeing” a flashing light. This can result in a disregard for all beacons, even those that are truly needed.

But if I see a safety problem, or an accident waiting to happen, there must be something we can do about it.

There are usually several options available to improve the safety of an intersection or roadway when a problem truly exists. It helps to approach the situation with an open mind and to work together toward solutions.



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