ORIGINATOR Director, Bureau of Highway Operations		4-2-8
CHAPTER 4	Signals	
SECTION 2	Traffic Control Signals	
SUBJECT 8	Battery Backup Systems	

A. General/Purpose

The recent application of LED traffic signal indications, which consume less power than conventional incandescent lamps, has made battery-powered energy backup systems feasible. However, it is recognized that, because of the cost of such systems, that gradual deployment at strategic signalized intersection locations is appropriate.

Factors that *may* influence the placement of battery backup systems are: proximity of other transportation systems, intersection geometry, traffic volumes, corridor (i.e. progressive movement) considerations, or safety considerations.

B. Policy

Location Criteria

Signalized intersection locations that meet the criteria below **shall** be equipped with a battery backup system capable of maintaining signal operation, as defined and prioritized below:

1. RR interconnected installations, or
2. Single Point Urban Interchanges, or
3. Intersections with triple-left turn lanes.

Signal installations designed prior to the effective date of this policy that meet the prioritized criteria above and do not have battery backup systems **shall** be equipped with them as budgets and staff resources allow.

Operation Criteria

Signal operations *should not* need to be modified in order to reduce energy requirements or extend service time. Rather than introducing modified signal

operations or displays, signals that function with battery backup systems with low power reserves *may* go into flashing operation.

Intersection and roadway lighting **shall not** be connected to battery backup systems.

C. Support

Battery backup systems are expected to maintain safe and efficient traffic operations at critical signalized intersections during power outages. Of particular concern are intersections that are near railroad grade crossings (for preemption) and geometrically complex intersections.

Besides providing potential benefits to traffic safety and operations, the use of battery backup systems *may* allow increased response times by Electrical personnel, which could provide an advantage in light of increased signal infrastructure and associated maintenance demands.