Regional Signal Retiming & Optimization Program

Goal: Regional Signal Timing Program

Background: The benefits of signal retiming are well documented and are commonly agreed to be around 40:1 return-on-investment. Federal Highway Administration recommends signal retiming every 3-5 years. This program will attempt to meet this goal. For the 2018 Regional Solicitation, funds will be available for the 2022 and 2023 program years, which is over five years out from today. Therefore, even recently timed signals would be eligible for a retiming.

Program Outline:
- The project would consist of collecting all necessary data, developing 3-5 optimized timing plans, implementation, fine-tuning and creation of a final report documenting the benefits of the project.
- It is anticipated that this program would be able to retime over 500 traffic signals in the region. Hardware and communication upgrades are not being consider as part of this project. Elements such as this would still be able to be funded through the normal Regional Solicitation process.
- Funds for the proposed effort would come out of the approximately $4M-$5M per year that is currently being allocated to the Roadway System Management application category.
- MnDOT Metro District would facilitate this program through their State-Aid and Traffic Offices.
- Qualified consultant firms (5) with knowledge and expertise in signal retiming and signal operations would be pre-approved.
- The agencies would submit a list of intersections they would like retimed as part of this effort. Supporting documentation would be required (date last retimed, ADT, number of signals, etc.).
- Funds would be distributed to cities and counties based on the number of signals owned by each agency. For example, if City Y owns 10% of the traffic signals in the region, then they would get 10% of the total funds available. An inventory of existing signals was recently compiled at the request of the State Legislature.
- The amount of funds being requested would not retime the entire system. Each individual agency would be able to select the signals and corridors for retiming based on their priorities and needs using the money allocated to them.
- Consultants would be assigned on a rotating basis, ensuring agencies get exposed to various firms.
- The Program would fund 80% of the project with the agency funding the remaining 20%.
- The consultants would perform field evaluations, collect all required data, develop and implement timing plans, make any filed adjustments and document all benefits. See attached Scope of Work as an example.

Program Benefits:
- Investment in signal timing and related projects is the highest priority for highway investment in the 2040 Transportation Policy Plan. In addition, the Plan states that "when highway capacity issue are identified, regional transportation partners should first work to apply traffic management technologies to improve traffic flow without adding physical highway capacity."
- A recent federal certification review for the MPO indicated a need for major changes to the federally-required Congestion Management Process. This investment would be a significant step to meeting the changes required by the Federal Highway Administration. One of their

requests is to supply before and after performance data, as will be done with this proposed effort, to ensure that wise investments are being made in the transportation system.

- Economies of scale will be realized as local agencies will not have to prepare costly funding applications, manage the federal grant, or hire a consultant to do the retiming work.

This request is for $3,000,000 ($1,000,000 in 2022 to get the program started and then $2,000,000 in 2023).