

I would recommend use of the Signal Retrofit benefits analysis for this project. Detection replacement will typically fall under Signal Rehab, however, because the application stated how the proposed detection will be used specifically to extend green time, we will use the minor safety improvements as part of this project type to capture those benefits.



Project Benefits - Signal Retrofit

Procure and install monotubes, procure and install flashing yellow arrows, safety improvements not requiring major construction and adaptive signal systems.

Region:

Proposed Project Name:

Requested By:

1 What is the anticipated cost of the project?

2 What is the primary improvement type?

3 If minor safety improvements or other, provide a brief description of the proposed improvements.

4 Using each of the following Needs Analysis Tool presets, provide the anticipated level of need in the vicinity of the proposed project:

Needs Tool. →

Default TIP	<input type="text"/>
Safety	<input type="text"/>
Mobility (Present)	<input type="text"/>
Mobility (Future)	<input type="text"/>
Service	<input type="text"/>
Freight Performance	<input type="text"/>

5 Indicate the type of benefit(s) that are expected as a result of this project?

Safety	<input type="text"/>
Mobility (Reduction of Travel Time Delay or Variability / Increased Throughput)	<input type="text"/>
Productivity (Improved Maintenance)	<input type="text"/>

Base responses on the application. Likely, yes for all.

Needs Tool. Consider each of the segments at the intersection within the influence area (in 99% of the cases, this will just be one segment intersecting at the intersection). Guidance varies, but generally recommends using 50 to 100 feet.

enefits

S1. Is it anticipated that the proposed improvements will increase safety such that an average crash rate at this intersection will be expected?

S2. How many crashes, by type, occurred in the past year at this intersection?

<input type="text"/>	Fatal Crashes
<input type="text"/>	Incapacitating Injury Crashes
<input type="text"/>	Non-incapacitating Injury Crashes
<input type="text"/>	Possible Injury Crashes
<input type="text"/>	Property Damage Only Crashes

S3. What is the average number of vehicles entering the intersection per year?

Million Entering Vehicles

Needs Tool. Sum the AADT for each entering segment.

S4. Is this intersection located in an Urban or Rural area (Urban is defined as an incorporated area with a population of 5,000 or greater)?

Estimate. Likely Urban.

Estimated Safety Benefit:

Mobility Benefits

Needs Tool. Sum the AADT for each entering segment.

M1. What is the estimated ADT for all vehicles entering the intersection (the Needs Analysis Tool can be used to add the traffic entering the intersection)?

 vehicles per day

M2. What is the average Relative Need at this intersection according to the Needs Analysis Tool - Service preset?

Needs Tool.

Estimated Annual Mobility Benefit:

Productivity Benefits

this section asks the user to estimate the percent reduction of maintenance ticket costs.

P1. It is assumed that productivity benefits will be realized through reduced maintenance efforts. Estimate for how long maintenance efforts have been increasing at this intersection.

P2. How many Cartegraph tickets have been required at this location over the length of time indicated above in P1?

estimate

 tickets

P3. What was the total cost of these tickets?

pull from Cartegraph or estimate.

P4. What is the anticipated percent reduction of maintenance tickets due to the proposed project?

estimate

Estimated Annual Productivity Benefit:

Energy and Environment Benefits

E1. Energy and Environment benefits are determined based on average travel time reduction.

Estimated Annual Energy and Environment Benefit:

Estimated Annual Benefit:

Estimated Benefit/Cost Ratio: