Transportation System Management and Operations - Traffic Infrastructure Process

Project Benefits - Signal Replacement

Replacement of signals including geometric improvements and upgrades for construction.

I would recommend completing this analysis for each of the 6 intersections identified.

Region:
Proposed Project Name:
Requested By:

1 What is the anticipated cost of the project?

2 What is the primary purpose of the project?

3 What is the primary improvement type? Other

If other, provide a brief description of improvement type.

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

Default TIP
Safety
Mobility (Present)
Mobility (Future)
Service
Freight Performance

Needs Tool →

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 I would recommend using 50 to 100 feet.

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

Safety
Mobility (Reduction of Travel Time Delay or Variability / Increased Throughput)
Productivity (Improved Maintenance)

nefits

S1. 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)?

likely urban →

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

Fatal Crashes
Incapacitating Injury Crashes
Non-incapacitating Injury Crashes
Possible Injury Crashes
Property Damage Only Crashes

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

Million Entering Vehicles

Estimated Safety Benefit: #DIV/0!

Needs Tool. Sum the AADT for each entering segment and multiply by 365.

same number as previous question, but not multiplied by 365.

consider the average based on the segments in the intersection. It is used to estimate a LOS which is then reduced by the benefit of signal re-timing.

y Benefits

M1. What is the estimated ADT for all vehicles entering the intersection (the Needs Analysis Tool can be used 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 prese

Estimated Annual Mobility Benefit:

Productivity Benefits

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.

estimate

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

tickets

P3. What was the total cost of these tickets?

Estimated Annual Productivity Benefit: $0

Energy and Environment Benefits

Estimated Annual Energy and Environment Benefit: $0

Estimated Annual Benefit: #DIV/0!

Estimated Benefit/Cost Ratio: #DIV/0!