I would recommend considering each CCTV separately. I would expect that a lot of the responses will be the same for the warrants so it would likely go quick.

Transportation System Management and Operations - Traffic Infrastructure Process

Project Benefits - ITS Camera Warrants

New Camera deployment.

Region:	
Proposed Project Name:	
Requested By:	

1 What is the anticipated cost of the project?

2 Please complete the warrant analysis below. If more than one camera is being requested, it is recommended that each location is considered separately because there may be different responses to the questions below. However, if multiple camera locations are included in this analysis, respond to each question collectively. Based on your responses , the following CCTV Camera Warrants have been met:

W1, Signal Control	WARRANTED
W2, Traffic Incident	WARRANTED
W3, Weather Verification	WARRANTED
W4, Traveler Information	WARRANTED
W5, Field Device Verification	WARRANTED
W6, Work Zone	WARRANTED

answer based on specific location

CCTV Camera Warrant Analysis:

CCTV Warrant #1 - Traffic Observation for Signal Control Changes

Consideration		Response
1	There are typically periods of time at least twice per week of 'loaded' cycles (i.e. where the vehicles in the queue do not all dissipate in one green cycle) that last 15 minutes or longer.	YES
2	The signalized intersection has sufficient cross street traffic such that visual observation is needed determining if alternate signal timings are appropriate to benefit the primary direction of flow (i.e. in order to verify that the secondary street is not backing up).	YES
3	The operations personnel have the ability to activate special event timing plans remotely.	YES

CCTV Warrant #1 is: WARRANTED

CCTV Warrant #2 - Traffic Incident or Event Verification

Consideration		Response
1	The candidate location encounters incidents as frequently as twice per month for arterial streets or once per month for freeways.	YES
2	The incidents and events that occur on freeways typically cause delay to travelers of at least 15 minutes while the incident is active and has not been cleared.	YES
3	The incidents and events that occur on arterials typically impact travel such that the signal progression is no longer occurring and vehicles in queues are unable to clear intersections during the cycle's allotted green time.	YES
4	Incident location verification is needed by 911 dispatchers (e.g. large complex interchange where drivers don't know where they are, closely spaced interchanges).	YES
5	The location encounters at least 2 hours per day of peak period travel where traffic flow exceeds 1,100 veh/hr/lane.	YES
6	The location encounters conditions considered Level of Service C.	YES
7	The location encounters average annual daily traffic (AADT) of 16,800 for a 2 lane road; 33,600 for a 4 lane road; 50,400 for a 6 lane road, 67,200 for an 8 lane road.	YES

CCTV Warrant #2 is: WARRANTED

CCTV Warrant #3 - Weather Verification

Consideration		Response
1	The location typically encounters at least 10 weather events each season.	YES
2	Weather events have a significant impact to travelers at this location (due to such circumstances as either: local terrain, lack of alternate routes, winding or steep routes), and it is a location that travelers are frequently concerned about.	YES
3	If there are no nearby weather sensors reporting real-time conditions.	YES
4	If there are no regular manual observations and reports of visibility, precipitation, or pavement temperatures.	YES
5	If nearby weather sensors would be enhanced through the capability of visual observation.	YES

CCTV Warrant #3 is: WARRANTED

CCTV Warrant #4 - Traveler Information

Consideration		Response
1	The location visible by the camera image has a history of congestion on a regular basis (i.e. each commuter day is a candidate for congestion).	YES
2	The location is prone to weather situations that travelers would not otherwise be forewarned about (e.g. spots where fog regularly forms, bridges that ice early, mountain passes with weather that differs from approaches).	YES
3	The location is in a remote area that receives considerable traffic volume due to commercial vehicle traffic or recreational traffic.	YES
4	The majority of travelers to the area have Internet access in proximity to the area where camera images are of value to travelers prior to departure.	YES

CCTV Warrant #4 is: WARRANTED

CCTV Warrant #5 - Field Device Verification

Consideration		Response
1	The proper operations of the device can be remotely monitored by a camera.	YES
2	The failure of the device presents a safety hazard.	YES
3	The camera operation would avoid unnecessary trips to verify functionality of the field device.	YES

CCTV Warrant #5 is: WARRANTED

CCTV Warrant #6 - Intelligent Work Zone

Consideration		Response
1	The alignment or traffic control that is visible by a camera image is expected to change periodically during the construction period.	YES
2	The construction zone encounters periods of queues or delays for at least 30 minutes each day.	YES
3	The construction zone is in a location where there is not a convenient alternate route for the majority of traffic to deviate from the typical route.	YES

CCTV Warrant #6 is: WARRANTED

questions below will be available based on warrants met above. It is likely you will not need all of the information below.

3 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	
Safety	
Mobility (Present)	
Mobility (Future)	
Service	
Freight Performance	

Safety Benefits

S1. How many crashes, by type, occurred in the past year at this intersection or corridor?

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

Estimated Safety Benefit: $0

Needs Tool. Consider the area which will be visible with the camera.

Mobility Benefits

M1 (W1). What is the estimated AADT for all vehicles entering the intersection?

vehicles per day

M2 (W1). What is the average Relative Need at this intersection according to the Needs Analysis Tool - Service preset?

M1 (W2, W3, W4, W6). Estimate the average number of traffic events that occur per year within site distance of the proposed camera(s).

events per year

M2 (W2, W3, W4, W6). Estimate the average duration (minutes) of the traffic events that occur within site distance of the proposed camera.

minutes

M3 (W2, W3, W4, W6). Provide the current AADT along the corridor where the proposed camera will be deployed (the Needs Analysis Tool may be used to obtain the value).

veh per day

Estimated Annual Mobility Benefit: $0

Needs Tool. Sum the AADT for each entering segment.

Needs Tool.

estimate

Needs Tool. Bi-directional volumes.

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 the proposed device replacement location(s).

P2. How many Cartegraph tickets have been required at this location over the length of time indicated above in P1? (if request is for multiple intersections, include cumulative total here)

tickets

P3. What was the total cost of these tickets?

P4. What is the total number of replacement locations?

Estimated Annual Productivity Benefit: #N/A

estimate

likely not used.

Energy and Environment Benefits

Estimated Annual Energy and Environment Benefit: $0

Estimated Annual Benefit: #N/A

Estimated Benefit/Cost Ratio: #N/A