
APPENDIX E RESULTS OF PRIORITIZATION SURVEYS

Surveys were distributed in June 1999 to members of the ITS Executive Steering Committee, the TOC Managers and the District Managers in order to determine how ODOT stakeholders perceive the repair priority of different ITS deployments (12). The survey forms are included as Appendix F.

This appendix explores the findings of these surveys.

E.1 Executive Steering Committee

The Executive Steering Committee was asked to prioritize how maintenance should be performed based on the primary device function. The following primary device functions were presented as options:

- traffic control,
- safety,
- public perception / high-profile,
- information dissemination, and
- liability / legislative mandate.

The Executive Steering Committee considered liability or legislative mandate to be dominant. If there is a requirement in the law, such as the Oregon Administrative Rules or the Oregon Revised Statutes, or is in professional standards documents, such as the Manual for Uniform Traffic Control Devices, then the committee felt the device should be maintained, regardless. As such, the committee did not believe that priorities should be ranked based on liability or legislative mandate. Moreover, the committee believed that liability could be associated with each of the other device functions, so that one always assumes a certain level of liability with the level of service that is provided.

The Steering Committee ranked the other factors in order of descending priority, with safety first, followed by traffic control, public perception / high profile, and information dissemination. Regarding public perception, committee members said that public perception should play a “large role” in determining maintenance priorities, and that the public should see ODOT as reliable and responsive to public needs. Even so, public perception should be treated as a secondary concern to safety and traffic control when it comes to ITS maintenance priorities. The committee felt that prioritization of devices will differ based on situational and seasonal conditions, with rural devices likely having a higher priority during the winter and urban devices having a relatively consistent priority year-round.

E.2 TOC Managers

Two surveys out of four were returned from TOC managers, one from Region 1 (Portland) and Region 3 (Medford), which can provide a context for how maintenance priorities are perceived differently between urban and rural regions. The survey results from these two regions are shown in Table E-1.

| ITS Device | Region 1 TMOG (Portland) | | Region 3 TOC (Medford) | |
|---|--------------------------|---------------|------------------------|------------------|
| | Priority Level | Response Time | Priority Level | Response Time |
| Computer-aided dispatch / emergency response / incident management | 1 | 1 hour | 1 | Less than 1 hour |
| Highway Advisory Radio (HAR) | NA | NA | 10 | 1 week |
| Highway Travel Conditions Reporting System | 6 (tie) | 48 hours | 5 (tie) | 24 hours |
| Incident response vehicles (includes VMS, AVL, cell phones, on-board computers, etc.) | 4 | 48 hours | 5 (tie) | 24 hours |
| Pre-trip traveler information (e.g. 800-numbers, Internet, cable TV, kiosks) | 8 | 48 hours | 3 (tie) | 24 hours |
| Ramp meters | 3 | 24 hours | NA | NA |
| RWIS | 9 (tie) | 1 week | 8 (tie) | 1 week |
| Signal preemption (e.g. transit, emergency vehicles) | 9 (tie) | 1 week | 3 (tie) | 24 hours |
| Surveillance cameras | 5 | 48 hours | 8 (tie) | 1 week |
| Traffic signals | 2 | 1 – 2 hours | 2 | 1 hour |
| Variable message signs | 6 (tie) | 48 hours | 5 (tie) | 24 hours |

NA = Not applicable

Table E-1: Comparison of TOC Manager Prioritization Survey Results.

(Source: 13)

In examining Table E-1, it is interesting to note the similarities between prioritization in urban and rural regions. In both regions, the top priority is in responding to and managing incidents, and the second maintenance priority is traffic signals. For both of these items, response to the problem should ideally occur within two hours. This indicates that public safety is a dominant concern in both urban and rural settings. At similar priorities in each region are also incident response vehicles, variable message signs (VMS), the Highway Travel Conditions Reporting System (HTCRS), and road and weather information systems (RWIS).

Significant differences between the two regions were found for signal preemption equipment and pre-trip traveler information, where these ranked as a higher maintenance priority in Region 3 than in Region 1, and for surveillance cameras, which were ranked as a higher priority in Region 1. Ramp metering, which exists only in Region 1, was rated as a relatively high maintenance priority, while highway advisory radio (HAR), which exists only in Region 3, was rated as a relatively lower maintenance priority.

These rankings are rather broad, so respondents were asked to identify whether or not certain ITS devices of the same type were more important than others. Region 3 cited several RWIS stations – on Interstate 5 at Siskiyou Summit, Sexton Summit and the Medford Viaduct and US Route 199 at Hayes Hill – which would have a recommended repair response time of only 1 hour, compared to one week for RWIS in general. In region 1, three camera locations – Interstate 5 southbound at Terwiliger, Interstate 5 southbound at the Morrison Bridge ramp, and on top of the Metro building – and three VMS locations – Interstate 5 northbound at Columbia, Interstate 5 northbound at Wilsonville, and Interstate 84 westbound at 24th – were listed as higher priority locations. At these locations, a response time of 24 hours was recommended, versus the

| ITS Device | Region 2 District 5 | | Region 3 District 7 | | Region 3 District 8 | | Region 4 District 9 | | Region 5 District 12 | | Region 5 District 13 | | Region 5 District 14 | |
|---|------------------------|----------|------------------------|--------|------------------------|---------|------------------------|--------|-------------------------|------|-------------------------|--------|-------------------------|----------|
| | PL | Time | PL | Time | PL | Time | PL | Time | PL | Time | PL | Time | PL | Time |
| Commercial vehicle systems (e.g. weigh-in-motion, downhill speed advisory system) | 3 | | | | 8 | 1 week | | | 4 | | | | | |
| Field warning systems (e.g. icy bridge, high water, low-visibility) | 1 | ASAP | | | 7 | 1 week | | | | | | | 2 | |
| Highway Advisory Radio (HAR) | 7 | Schedule | | | 6 | 24 hrs* | | | | | | | | |
| RWIS | 5 | Schedule | 3 | 48 hrs | 5 | 48 hrs | 2 | 36 hrs | 3 | | 3 | ASAP* | 2 | |
| Signal preemption (e.g. transit, emergency vehicles) | 5 | Schedule | 2 | 24 hrs | 4 | 48 hrs | | | 1 | | 4 | 1 day | | |
| Surveillance Cameras | | | 4 | 48 hrs | 2 | 24 hrs | | | 3 | | 5 | 1 week | | |
| Traffic signals | 1 | ASAP | 1 | 8 hrs | 1 | 1 hr | | | 1 | | 1 | 2 hrs | 1 | < 48 hrs |
| Variable message signs | 2 | ASAP | | | 3 | 24 hrs | 1 | 8 hrs | 2 | | 2 | ASAP* | 2 | |

PL = Priority Level
* - Winter only

Table E-2: Comparison of District Manager Prioritization Survey Results.

(Source: 13)

48 hours normally recommended by Region 1 for VMS and cameras. Region 1 also cited the RWIS at the Interstate 205 Glen Jackson Bridge as a high-priority ITS device, requiring a response time of 48 hours whereas other RWIS sites were recommended to have a one-week response time.

While Table E-1 provides a helpful comparison between urban and rural priorities, its results should not be extrapolated on a statewide basis because there may be significant differences in priorities across rural regions within ODOT based on local needs, such as the severity and extent of adverse weather-related conditions.

E.3 District Managers

Surveys were also sent to district maintenance managers, who have the day-to-day responsibility for maintenance in the districts. Because the districts represent a smaller geographic area than the regions, not all devices may be present in all districts. Table E-2 summarizes the responses from several districts. As was true with the TOC managers, the District Managers placed a high priority on traffic signals above other types of ITS maintenance. VMS were generally considered to be a high maintenance priority among the districts with the device. RWIS and CCTV cameras were rated as higher priorities by some districts than by others. A couple of the district managers responded that prioritization can vary by seasons, with winter conditions increasing the priority of RWIS, VMS and HAR deployments.

The district managers also identified several ITS devices that seem to be more critical than others in terms of repair priority. These include:

- Camera locations – Siskiyou Summit on Interstate 5 and Interstate 84 at Milepost 271;
- VMS locations on Interstate 5 at Mileposts 16 and 30 and on Interstate 84 at Mileposts 263 and 286; and

-
- RWIS stations at Siskiyou and Sexton Summits on Interstate 5 and on Interstate 84 at Mileposts 269 and 274.

District managers were also surveyed about the maintenance priority of commercial vehicle systems. District managers do not currently perform any maintenance on commercial vehicle ITS deployments, because this maintenance is handled through a vendor contract. If district managers were to inherit responsibility for these systems through a lapsing of the contract agreement, it appears that it would generally take a lower priority than other ITS devices.