

M e m o r a n d u m



To:

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SB1 Program Manager
Office of the Director

Date:

April 24, 2018

File:

P3010-0639

From:

ERAINA ORTEGA Inspector General
Independent Office of Audits and Investigations

Subject: FINAL AUDIT REPORT ON BASELINE FOR SENATE BILL 1 PERFORMANCE OUTCOMES

Attached is the Independent Office of Audits and Investigations' final audit report on the Baseline for Senate Bill 1 Performance Outcomes. Your response has been included as part of our final report. This report is intended for your information and for Department Management.

Please provide our office with status reports on the implementation of your audit finding dispositions 60-, 180-, and 360-days subsequent to the transmittal date of this memorandum. If all findings have not been corrected within 360-days, please continue to provide status reports every 180-days until the audit findings are fully resolved. Senate Bill 1 requires the Inspector General to report at least annually, or upon request, to the Governor, the Legislature, and the California Transportation Commission with a summary of audit findings and recommendations. The summary along with this report and the status reports will be posted on the Independent Office of Audits and Investigations' Internet Web site.

We thank you and your staff for their assistance provided during this audit. If you have any questions or need additional information, please contact Zilan Chen, Chief, Internal Audits, at (916) 837-3415, or me at (916) 323-7863.

Attachment

c: Susan Bransen, Executive Director, California Transportation Commission
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Michael R. Tritz, Deputy Secretary, California State Transportation Agency
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INDEPENDENT OFFICE OF AUDITS AND INVESTIGATIONS

REPORT DATE: APRIL 24, 2018

REPORT: P3010-639

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BASELINE FOR SENATE BILL 1 PERFORMANCE OUTCOMES AUDIT

BACKGROUND

As required by the Streets and Highway Code section 164.6, Caltrans performed a needs assessment in 2016 for the State Highway System Management Plan that was issued in June 2017. This plan identified that over a ten year period, \$96 billion is needed to maintain and improve deteriorated road conditions. To address the transportation funding needs, Senate Bill (SB) 1, the Road Repair and Accountability Act, was approved by the California Legislature and Governor Brown in April 2017 and is expected to provide Caltrans an additional \$26 billion to fix culverts, freeways and bridges across California over the next ten years. The act requires Caltrans meet the five performance objectives:

- Not less than 98 percent of pavement in good or fair condition
- Not less than 90 percent level of service achieved for maintenance of potholes, spalls, and cracks
- Not less than 90 percent of culverts in good or fair condition
- Not less than 90 percent of transportation management system (TMS) units in good condition
- Fix not less than an additional 500 bridges

KEY FINDINGS

The audit determined that Caltrans Asset Programs are making progress towards the development of processes and procedures to achieve SB1 performance outcomes. It also identified areas where improvement can be made as follows:

- Adopt policies and procedures to comply with level of service performance outcomes
- Complete inventory of culverts and establish an ongoing re-inspection program
- Maintain an accurate inventory of the transportation management system elements

KEY RECOMMENDATIONS

The audit resulted in several recommendations including:

- Level of Service Program should develop and implement a plan to monitor progress toward achieving SB1 performance targets
- Culvert Inspection Program should implement the plan to complete the inventory and monitor the progress in meeting the SB1 requirements
- Traffic Operations should develop policies and procedures to clearly define TMS elements and expected life cycle and require districts to consistently update the asset inventory system
- Traffic Operations should perform a new needs assessment after updating the inventory system.

California Department of Transportation Baseline for Senate Bill 1 Performance Outcomes



AUDIT REPORT

APRIL 2018

PREPARED BY:

Independent Office of Audits and Investigations – MS 2

Post Office Box 942874

Sacramento, California 94274-0001

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AUDIT TEAM:

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P3010-0639

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Summary, Objective, Scope, Methodology, Background, and Conclusion

SUMMARY

The California Department of Transportation (Caltrans) Independent Office of Audits and Investigations (A&I), completed an audit on the baseline for Senate Bill 1 transportation funding (SB1) performance outcomes. The purpose of this audit is to determine if Caltrans has adequately established baselines and properly assessed asset conditions for the asset programs.

The baseline for SB1 performance outcomes was identified as a high risk issue by A&I management to ensure that proper internal controls were established to meet SB1 requirements. Our engagement began soon after the passage of SB1, consequently, Caltrans had not completed all the development of its procedures and internal controls for implementation of SB1 during the audit period. A&I plans to perform additional audit engagements at various stages of SB1 implementation to ensure Caltrans is meeting the performance outcomes established by SB1.

The audit determined that Caltrans asset programs are making progress in the development of processes and procedures to comprehensively and effectively achieve the SB1 performance outcomes, including the development of roles and responsibilities among asset programs. Specifically,

Caltrans appointed an SB1 Program Manager to oversee all Caltrans SB1 activities.

- Division of Maintenance (Maintenance) appointed an SB1 Program Manager to be the single focal point on all maintenance-related issues such as pavement, level of service, bridges, and culverts.
- Scorecards were developed by Maintenance to track and monitor progress within each program to achieve SB1 outcomes and goals.
- A baseline was established for the purpose of measuring what it means to fix an additional 500 bridges. Caltrans defined what a "fix" is and evaluated the number of bridges being fixed over a five-year period to measure progress towards the performance target.

During the audit, we reviewed the process Caltrans has historically used to assess and report pavement conditions. We determined there have been multiple measures of pavement conditions in the past, however Caltrans has recently finalized its first Transportation Asset Management Plan (TAMP) which we understand from the Asset Manager is now the single, authoritative report on pavement conditions. The California Transportation Commission (CTC) approved the TAMP in March 2018 along with benchmarks to track progress towards achieving SB1 performance targets. Additionally, the Federal Highway Administration certified the TAMP in March 2018. As the TAMP and related benchmarks were approved after our fieldwork of January 31, 2018, we did not have the opportunity to review these documents. Given the significant amount of funding expected

to be dedicated to pavement improvements in the coming years, we anticipate further review and audit activity in this area.

Our audit also identified areas where improvement can be made to assist Caltrans in meeting SB1 objectives as follows:

- Adopt policies and procedures to comply with level of service performance outcomes.
- Complete inventory of culverts and establish an ongoing re-inspection program.
- Maintain an accurate inventory of the transportation management system elements.

OBJECTIVES

The objectives of the audit were to determine whether Caltrans has developed:

- Plan and performance criteria to meet the SB1 performance outcomes
- Policies and procedures to adequately track, assess asset conditions, monitor, and report on SB1 outcomes
- Baseline inventory of assets and their conditions that is supported and reliable

The audit covered the period of July 1, 2016, through December 31, 2017. We conducted our audit from August 22, 2017, through January 31, 2018. Changes after these dates were not tested, and accordingly, our conclusions do not pertain to changes arising after January 31, 2018.

SCOPE & METHODOLOGY

The audit was limited to the evaluation of the process, policies, and procedures used to develop the baseline of assets to meet SB1 performance outcomes. As the inventory of assets and their conditions are constantly changing, we focused on the process to develop the baselines and assess their reliability. The audit was performed in accordance with the International Standards for the Professional Practice of Internal Auditing.

Baselines are used to measure progress toward achieving the performance targets specified in SB1. The assets and performance outcomes identified in SB1 are:

Asset Class	Projected End of Plan Conditions by Year 2027
Pavement	Not less than 98 percent of pavement in good or fair condition.
Level of Service (LOS)	Not less than 90 percent level of service achieved for maintenance of potholes, spalls, and cracks.
Culverts	Not less than 90 percent of culverts in good or fair condition.
Bridges	Fix not less than an additional 500 bridges.
Transportation Management Systems (TMS)	Not less than 90 percent of transportation management system units in good condition.

BACKGROUND

As required by the Streets and Highway Code section 164.6, Caltrans performed a needs assessment in 2016 for the State Highway System Management Plan that was issued in June 2017. This plan identified that over a ten year period, \$96 billion is needed to maintain and improve deteriorated road conditions. To address the transportation funding needs, SB1, the Road Repair and Accountability Act, was approved by the California Legislature and Governor Brown in April 2017 and is expected to provide Caltrans an additional \$26 billion to fix culverts, freeways and bridges across California over the next ten years. The act requires Caltrans meet the five performance objectives identified in the chart above.

The State Highway System Management Plan identified the existing inventory, as well as asset conditions which established the baseline for Asset Programs to measure progress towards SB1 performance outcomes. The baseline inventory with asset conditions and specific targets are presented as follows:

Asset	Quantity	Baseline Condition 2017 SHSMP	SB1 Performance Outcomes
Pavement (lane miles)	49,644	94.3% good or fair	98% good or fair
Culverts*	107,397	88% good or fair	90% good or fair
TMS units	18,837	59% good	90% good
Bridges (each)	13,160	96.7% good or fair	Fix an additional 500 bridges
Level of Service	Not specified	Not specified	90% for potholes, spalls, and cracks

*Culverts inventory is not complete and the numbers and the condition percentage is constantly changing. Factors that impact the inventory include: increased numbers of culverts due to newly completed construction projects, increased number of culverts as more existing culverts are identified, the condition of newly identified culverts and changing condition of existing culverts that were previously identified. Caltrans management estimates that there are roughly 205,000 culverts and is actively working to locate and assess these culverts and place them into the inventory.

The following programs are responsible for monitoring the SB1 performance outcomes:

Transportation Asset Management

Caltrans is required by Senate Bill 486 to implement a Transportation Asset Management Plan in consultation with the CTC to inform and guide the project selection process with a strategic focus on operating, maintaining, upgrading, and expanding physical assets effectively throughout their life cycle. In 2015, Caltrans and CTC adopted federal Moving Ahead for Progress in the 21st Century (MAP-21), which is a federal law that uses a performance based approach to fund transportation projects for all 50 States. MAP-21 is used to assess conditions of bridges and pavement. The Asset Management Office is led by the Caltrans State Transportation Asset Engineer (Asset Engineer).

Caltrans State Transportation Asset Engineer:

Assisted by each Asset Program, the Asset Engineer will compile data from each asset and allocate funding as needed to ensure progress towards the specific goals. The Asset Engineer will then meet with the CTC on a quarterly basis to deliver updates on all asset classes, and provide annual reporting on the SB1 mandated outcomes and performance measures detailing progress achieved during the year.

Pavement Program

The Pavement Program collects and manages the pavement condition for the entire state highway system. Pavement data is collected annually by an independent contractor that uses vehicles with equipment such as lasers, radars, the Global Positioning System, and cameras. Using the data, the Pavement Program assess the condition for roughly 50,000 lane miles of pavement on the state highway system.

Level of Service Program

The Level of Service Program was developed to evaluate and report on how well Maintenance is able to maintain state highways. Evaluations are conducted once a year and represent a snapshot of the roadway condition at the time evaluations were conducted. Level of Service evaluations assist Maintenance to determine the level of effort required to improve road conditions

Culvert Inspection Program

The Culvert Inspection Program is responsible for locating, assessing, and inventorying an estimated 205,000 culverts per the 2017 State Highway System Management Plan. Inventory data is constantly changing as inspection crews add culverts to the inventory. A culvert is defined as a tunnel carrying a stream or open drain under a road. Keeping the culvert system in good working condition will prevent storm-water runoff from flowing onto the state highway system. This program provides information to Maintenance for needed repairs to culverts.

Division of Traffic Operations

The Division of Traffic Operations is responsible for the Transportation Management Systems (TMS) and the inventory of its assets. These electronic assets such as; Closed Circuit Television cameras, ramp meters, detection systems, and changeable message signs work together to reduce highway user delay. These assets provide travelers timely information and collect information on traffic behavior. As such, they are an integral part of the state highway system, performing critical functions that keep people, vehicles and goods moving.

Structure Maintenance and Investigations

The Structure Maintenance and Investigations office is responsible for managing Caltrans' transportation structures. This responsibility includes performing bridge investigations, inspections, making work recommendations, and providing documentation in accordance with federal and state regulations for bridges on the state highway system.

CONCLUSION

The audit determined that Caltrans Asset Programs are making progress towards the development of processes and procedures to achieve SB1 performance outcomes. It also identified areas where improvement can be made as follows:

- Adopt policies and procedures to comply with level of service performance outcomes.
- Complete inventory of culverts and establish an ongoing re-inspection program.
- Maintain an accurate inventory of the transportation management system elements.

This report is intended as information for Caltrans management, California Transportation Commission, and Federal Highway Administration. The report is a matter for public record and will be placed on Caltrans' website, which can be viewed at: <www.dot.ca.gov/hq/audits/reports_issued.html>.

VIEWS OF RESPONSIBLE OFFICIALS

We requested written responses to our findings from the Chiefs of Division of Maintenance and Division of Traffic Operations and received a consolidated response from the SB1 Program Manager. They concurred with our findings. Please see Attachment for their responses.

Eraina Ortega
Inspector General
Independent Office of Audits and Investigations
April 13, 2018

Findings and Recommendations

FINDING 1 – Policies and Procedures to Comply With Level of Service Performance Outcome in Senate Bill 1 Were Not Completely Established

The Division of Maintenance's (Maintenance) Level of Service (LOS) Program was developed to evaluate and report how well Maintenance is able to maintain the State's highways according to guidelines established in the Maintenance Manual. LOS evaluations assist Maintenance to determine the level of effort required to improve road conditions. The evaluations are conducted once a year to assess the roadway using 35 attributes such as: guardrails, signs, pavement, graffiti, roadside vegetation, etc. Potholes, spalls, and cracks are three of the 35 attributes that are annually assessed. The evaluations result in LOS scores which are used to identify highway needs and for allocating Maintenance resources to the districts on the 10 highest priority attributes, including potholes, spalls, and cracks, to improve their conditions. SB1 requires that Caltrans meet a performance outcome of not less than 90 percent LOS score achieved for maintenance of potholes, spalls, and cracks by end of 2027.

During the audit, the LOS Program was in the process of developing a plan to comply with the SB1 performance targets and identifying a baseline to measure progress toward meeting the SB1 outcome. While assets such as pavements, culverts, TMS and bridges were previously identified in preparation for the 2017 State Highway System Management Plan, the LOS was not identified. Maintenance developed a draft plan towards the end of our engagement, consequently, we did not have the opportunity to perform a full assessment to express an opinion on its completeness.

In addition, as part of our audit procedures, we also evaluated the accuracy of data entry into the LOS database where the scores are tabulated. District maintenance staff perform evaluations of the highway on manual Field Survey Evaluation forms which is used to enter into the LOS database. We found that data related for potholes, spalls and cracks for three out of 49 (6 percent) Survey Evaluation forms was entered incorrectly into the system. Additionally, one evaluation form was missing. As funding for LOS is allocated based on the scores, accurate information is critical to ensure that the areas with the greatest needs receive the necessary resources.

RECOMMENDATION

We recommend the LOS Program:

- Solicit feedback from districts on the draft plan to ensure it is complete and comprehensive.
- Implement and monitor the plan to meet the LOS requirements in SB1 and make adjustments as necessary.
- Evaluate the possibility of automating the process of road evaluations to eliminate errors during data entry.

Division of Maintenance's Response

The Division of Maintenance concurs with the finding and recommendations. Please see Attachment for details of the response and action plan.

Finding 2 – Improvements Needed to Complete Inventory of Culverts

The 2017 State Highway System Management Plan identifies a baseline of 107,397 culverts with an assessment health of 88 percent in good or fair condition. This inventory is equivalent to about 52 percent of an estimated 205,000 culverts. Our interviews with management from the Culvert Inspection Program (Program) determined that Caltrans has a goal of locating and assessing 10,000 culverts annually, however, no plan was established to complete the inventory. A written plan was developed during the course of the audit to complete the inventory in the next five years if the request for additional positions is approved. We also noted that an on-going re-inspection program is needed to periodically assess culvert conditions of known culverts. According to Maintenance management, the Program lacks resources to actively locate and assess culverts, as well as to implement an on-going inspections program. With the passage of SB1, the Program is forecasting to increase the number of inspection crews from 16 to 39 in order to timely complete the inspections.

SB1 requires Caltrans to meet a performance outcome of not less than 90 percentage of the culverts to be in good or fair condition in 10 years (end of year 2027).

An accurate and complete inventory is necessary to identify culverts in need of repair or replacement to ensure compliance with SB1 requirements. If additional crews are not made available, it may be difficult to meet the 90 percentage performance goal set in SB1.

Recommendation

We recommend the Culvert Inspection Program:

- Implement the plan to complete the inventory and monitor the progress in meeting the SB1 requirements.
- Establish an on-going re-inspection program to ensure proper maintenance for the existing inventory.

Division of Maintenance's Response

The Division of Maintenance concurs with the finding and recommendations. Please see Attachment for details of the response and action plan.

Finding 3 – Inaccurate Inventory of Transportation Management System Elements

The 2017 State Highway System Management Plan states a baseline inventory of 18,837 transportation management system elements with approximately 59 percent in good condition. During our audit, the Division of Traffic Operations could not provide support for the stated baseline inventory.

According to the Division of Traffic Operations, district staff are required to maintain a complete and updated inventory of the transportation management system elements. However, after repairing or replacing the transportation management system elements, many districts do not consistently update information in the statewide inventory system causing it to be unreliable. Other factors associated with the inaccurate baseline inventory include:

- Missing installation dates for inventory elements, this information is crucial in performing the needs assessment of a transportation management system element.
- Assets not included in the database after completion of a transportation management system project.
- Unclear definition for element types resulting in detection elements being double counted in the inventory.

The Division of Traffic Operations is in the process of updating this database inventory by correcting duplicated elements and coordinating with all districts to provide the most current count.

SB1 states that Caltrans meet a performance outcome of not less than 90 percent of the transportation management system units in good condition by end of 2027. Lack of accurate data entry by the districts into the transportation management system database causes incorrect reporting. Without a reliable and updated transportation management system inventory, Traffic Operation's ability to accurately assess the need to maintain or replace assets could be limited, making it difficult to achieve the performance goal set in SB1.

Recommendation

We recommend the Division of Traffic Operations:

- Clearly define the traffic management system elements and the expected life cycle for the elements.
- Complete the process of updating their inventory and ensure that reliable data is in the system. Once completed, a new assessment must be performed.
- Develop policies and procedures to ensure district staff consistently perform updates to maintain a reliable asset inventory system.

Division of Traffic Operations' Response

The Division of Traffic Operations concurs with the finding and recommendations. Please see Attachment for details of the response and action plan.

Memorandum



To:

ERAINA ORTEGA
Inspector General
Independent Office of Audits and Investigations

Date:

April 20, 2018

File:

P3010-0639

From:

CARRIE POURVAHIDI
SB1 Program Manager /
Office of the Director

Subject: Baseline for Senate Bill 1 Performance Outcomes Audit

Thank you for the opportunity to provide a response to the draft audit report on Baseline for Senate Bill 1 Performance Outcomes. We are glad the audit recognizes that Caltrans asset programs are making progress in the development of processes and procedures to achieve the Senate Bill 1 performance outcomes.

The draft audit report identified the following as areas for improvement and provides some recommendations:

- Adopt policies and procedures to comply with level of service performance outcomes.
- Complete inventory of culverts and establish an ongoing re-inspection program.
- Maintain an accurate inventory of the transportation management system elements.

As noted in the attached responses from the divisions of Maintenance and Traffic Operations, efforts are already underway to implement the recommendations identified in the draft report. If you have questions or need additional information, please contact me at (916) 654-4227.

Attachments

1. Division of Maintenance Response

2. Division of Traffic Operations Response

c: Steve Takigawa, Deputy Director, Maintenance and Operations

Tony Tavares, Chief, Division of Maintenance

Jesse Bhullar, Chief, Division of Traffic Operations

Michael B. Johnson, State Asset Management Engineer, Asset Management

William Lewis, Assistant Director, Independent Office of Audits and Investigations

Zilan Chen, Chief, Internal Audits, Independent Office of Audits and Investigations

Kevin Yee, Audit Manager, Independent Office of Audits and Investigations

Attachment 1

Division Of Maintenance Response To The Draft Audit Report

Independent Office of Audits and Investigations - Response to Draft Report

Audit Response from Division of Maintenance

Audit Name: California Department of Transportation

Baseline for Senate Bill 1 Performance Outcomes

Audit Number: P3010-0639

Audit Report Finding #1

**Policies and Procedures to Comply With Level of Service Performance Outcome in
Senate Bill 1 Were Not Completely Established**

IOAI Audit Recommendation

We recommend the Level of Service Program to solicit feedback from districts on the draft plan to ensure it is complete and comprehensive.

Auditee Response to Draft Report

The LOS Program will present the draft plan to the Maintenance District Deputy Directors to obtain their feedback support, and agreement. Once an agreement is reached, it will be documented through each District's Maintenance Action Plan.

Estimated Completion Date

12/2018

Staff Responsible

Gilbert Ogaz, Acting Office Chief, Office of Roadside Maintenance

IOAI Audit Recommendation

We recommend the Level of Service Program to finalize the draft plan and implement it to monitor progress toward achieving SB1 performance targets.

Auditee Response to Draft Report

As noted in the draft audit report, the Level of Service Program developed a draft LOS plan to identify a baseline to measure progress towards meeting SB1 performance targets for potholes, spalls and cracks. The plan is currently in draft form and includes combined efforts from Pavement HM and SHOPP projects, Maintenance Service Agreements, and Maintenance forces. To ensure that progress is being made towards achieving the 90% goal, annual interim statewide LOS Target scores have been established based upon Maintenance activities, Maintenance Service Agreements, programmed and planned SHOPP and HM Projects for the next ten years, as noted in the draft plan. The draft plan will be finalized in June 2018.

Estimated Completion Date

6/2018

Staff Responsible

Gilbert Ogaz, Acting Office Chief, Office of Roadside Maintenance

IOAI Audit Recommendation

We recommend the Level of Service Program to evaluate the possibility of automating the process of road evaluations to eliminate errors during data entry.

Auditee Response to Draft Report

The Level of Service Program currently has short term, and long term initiatives to automate evaluations and help eliminate data entry errors. Short term: The LOS program has been working with a consultant who performs research and surveys of LOS "best practices" from other states, cities and localities. The research includes, but is not limited to: automation of LOS surveys and reviewing minimum number of segments to be evaluated. Once the work has been completed, the LOS Program will evaluate the results and determine which practices can be implemented when the contract expires in July 2018. Long Term: The LOS Program has been in discussion with the Pavement Program to determine the feasibility of using Pavement's Automated Pavement Condition Survey system to complete the LOS evaluations. As this system identifies and documents attributes automatically, data entry errors will be eliminated, and evaluations will be more consistent.

Estimated Completion Date

Short Term: December 2018 Long Term: December 2023

Staff Responsible

Gilbert Ogaz, Acting Office Chief Office of Roadside Maintenance

Audit Report Finding #2**Improvements Needed to Complete Inventory of Culverts****IOAI Audit Recommendation**

We recommend the Culvert Inspection Program to implement the plan to complete the inventory and monitor the progress in meeting the SB1 requirements.

Auditee Response to Draft Report

A plan is under development for Division Chief approval.

Estimated Completion Date

6/2018

Staff Responsible

Parviz Lashai, Chief, Office of Maintenance Stormwater and Environmental Compliance

IOAI Audit Recommendation

We recommend the Culvert Inspection Program to establish an on-going re-inspection program to ensure proper maintenance for the existing inventory.

Auditee Response to Draft Report

Plan and guidelines will be developed and provided to the districts to implement.

Estimated Completion Date

12/18

Staff Responsible

Parviz Lashai, Chief, Office of Maintenance Stormwater and Environmental Compliance

Attachment 2

Division Of Traffic Operations' Response To The Draft Audit Report

Independent Office of Audits and Investigations - Response to Draft Report

Audit Response from Division of Traffic Operations

Audit Name: California Department of Transportation

Baseline for Senate Bill 1 Performance Outcomes

Audit Number: P3010-0639

Audit Report Finding #3

Inaccurate Inventory of Traffic Management Systems Elements

IOAI Audit Recommendation

We recommend the Division of Traffic Operations to clearly define the traffic management system elements and the expected life cycle for the elements.

Auditee Response to Draft Report

The Division of Traffic Operations has identified the scope a cost of each distinct Traffic Management System (TMS) element and documented that in the TMS Cost and Fact Sheet as part of the TMS Inventory report. The Cost and Fact Sheets were updated in 2012. The cost and fact sheets also include the expected life or life cycle of each element, stated in years. To ensure that the costs and life cycle estimates are accurate based on current data, the Division will be updating all of the TMS Inventory Element fact sheet data. The current list of TMS element types, that are to be covered as part of SB-1, will be confirmed and documented.

Estimated Completion Date

07/2018

Staff Responsible

Stan Slavin, Chief, Office of Technology

IOAI Audit Recommendation

Complete the process of updating their inventory and ensure that reliable data is in the system. Once completed, a new assessment must be performed.

Auditee Response to Draft Report

As of March 16, 2018, the TMS Inventory database is up to date, and all activation dates have been included for those elements being tracked as part of SB-1. The database has also been modified to ensure that the inventory matches up with the TMS inventory definitions and the appearance of overlapping or duplicative TMS element functions have been addressed. The next step will be to perform additional quality assurance analysis to confirm the data set is accurate and complete. The new needs assessment will be recalculated based on the completed and verified inventory database. This is expected to be complete by June 2018.

Estimated Completion Date

7/2018

Staff Responsible

Thomas Schriber, Chief, Office of Performance

IOAI Audit Recommendation

Develop policies and procedures to ensure district staff consistently perform updates to maintain a reliable asset inventory system.

Auditee Response to Draft Report

The development of policy and procedures to maintain the TMS Inventory and accompanying database will be critical in tracking and meeting the goals of SB-1. A statewide policy will be developed by the Division to provide direction to the districts on how to provide a timely and accurate update of the database. Further explanation will be provided as to what constitutes an upgrade or replacement that would 'restart' the lifecycle clock. This effort will be coordinated with directions on how TMS element work is reflected in the SHOPP tool and how it ties back to the inventory replacement needs. Initial guidance to the districts will be in the form of a memorandum to be sent out by July 2018. A Traffic Operations Policy Directive will be completed by September 2018.

Estimated Completion Date

9/2018

Staff Responsible

Stan Slavin, Chief, Office of Technology
