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To: Senator Devlin, Co-Chair, JCLAIMT
Representative Harker, Co-Chair, JCLAIMT
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From: Robert L. Cummings, Principal Legislative Analyst (IT)

Subject: **JCLAIMT OWIN Hearings (March 1 & 8, 2011) Findings**

Background

The Joint Committee on Legislative Audits and Information Management and Technology (JCLAIMT) scheduled two separate public hearings on March 1 and March 8, 2011 for the specific purpose of taking public testimony on the Oregon Wireless Interoperability Network Project (OWIN). In particular, the JCLAIMT's goals were to: 1) solicit input on the current status and direction of the OWIN Project; 2) solicit input on long-standing public and stakeholder concerns related to OWIN cost-management and system design; and 3) identify possible alternative solutions for meeting the original OWIN goals specified in HB 2101 (2005).

This findings report is organized into the following six sections:

1. OWIN Project Status
2. General Findings
3. Cost-Related Findings
4. Design-Related Findings
5. Going-Forward
6. Recommended Next Steps

OWIN Project Status

ODOT/OWIN Project management reported the following key points:

1. OWIN is a program in transition since moving from Oregon State Patrol (OSP) to the Oregon Department of Transportation (ODOT).
2. ODOT/OWIN is charged with fixing a failing wireless emergency network.

3. ODOT/OWIN is driven by the failing infrastructure, the pending 2013 FCC mandate, and the state's current budget crisis.
4. OWIN is currently focusing on options for meeting the 2013 mandate and replacing associated equipment that is near total failure.

The Legislative Fiscal Office (LFO) reported that since taking over OWIN in the spring of 2010, ODOT has done an excellent job of determining the project's status and health, improving project management, identifying project challenges, establishing sound project financial controls, applying ODOT methods, processes, and standards, mitigating risks, and reviewing the project design and associated estimates. Despite inheriting a challenging situation, ODOT has done a great job of getting this project on the right track. The LFO reported that in addition to the many problems currently facing the ODOT/OWIN management team, that the state's current challenging fiscal situation has required ODOT/OWIN to look for more cost-effective short and long-term solutions other than the original $598 million Federal Engineering network design. Several of the key problems currently facing ODOT include trying to figure how best to deal with grants received to date, and partnership agreements consummated by OWIN management by both OSP and ODOT.

General Findings

1. The state's current budget crisis, the pending 2013 FCC mandate, the serious deterioration of the state's microwave backbone and related infrastructure, and public/stakeholder concerns about the cost and design of OWIN's current direction, are key drivers for the OWIN hearings and for both the short and long-term direction of the project.

2. HB 2101 (2005) did not mandate the state to develop its own "state network." Yet, there is clearly perceived evidence that the OWIN Project has worked from its beginning under the constraint that the final network (state portion) should be a "state network" based upon the existing four agency network infrastructure, and that it must be either owned or, at least key components controlled, by the state of Oregon.

3. It is clear that the original business case developed by Federal Engineering Inc. identified only one design option (with two expensive "flavors" – one costing $600,000+ million and the other $900,000+ million in one-time costs).

4. It is clear that the state's existing wireless network is very old and is deteriorating rapidly. The existing state analog microwave transmission system and the radios in emergency responder vehicles are 30-35 years old.

5. No formal business plan or business model was completed at the same time that the Federal Engineering, Inc. business case for OWIN was developed. The lack

of these fundamental "business" documents has contributed heavily to many of OWIN's ongoing problems to date.

6. Testimony in both hearings clearly showed that the state's wireless emergency network infrastructure has not been fully maintained within the past 5-10 years for a number of reasons. The key reason is that required maintenance funding requests were put on hold in anticipation of the OWIN Project replacing a majority of the aging equipment and infrastructure.

7. Harris Corporation reported that they won the radio contract with ODOT this past year, and made it clear that they didn't want to lose their newly won contract.

Cost-Related Findings

1. There is limited evidence that since 2005, the OWIN Project has availed itself of many of the lessons learned from other states, including the possible selling off of tower sites (and lease back), fully utilizing the "system of systems" (SOS) network model from a "bottom-up" approach, or utilizing many of the existing statewide (public and private) wireless assets.

2. It is clear that the State of Oregon may have missed the window of maximum cost savings from the utilization of the SOS network model. While it is not too late to move forward with an SOS option, many of the cost-savings benefits of the "bottom-up" implementation approach may not be realized due to the short timeframe the state is facing and the challenges of implementing an SOS business model and governance in a very short timeframe.

3. There is little or no evidence that OWIN/ODOT has done an inventory of the total statewide (i.e. federal, state, local, private, etc.) wireless assets that are available for possible use in building the statewide emergency network. There is evidence that OWIN has primarily inventoried wireless assets in the vicinity of where its 300+ proposed sites were planned as part of the original Federal Engineering Inc. statewide microwave backbone design.

4. There is evidence that at least some existing wireless assets have been leveraged via 40+ partnerships, many of which were originally setup prior to the OWIN Project by ODOT, OSP, Department of Forestry (DOF), and Department of Corrections (DOC). A vast majority of these partnerships have been established with organizations that had assets at or near the 300+ proposed OWIN sites.

5. There is clear evidence that ODOT/OWIN has been highly selective in leveraging the vast statewide existing system wireless assets across the State of Oregon as evidenced by: a) the lack of a statewide inventory of what the state (i.e. federal, state, local, private) currently has available for usage; b) the lack of OWIN documentation showing evidence of assets being considered for usage; and c)

public testimony from wireless service providers across the state, clearly showing that there is little evidence that their offers to share access to their wireless infrastructure were seriously considered by the state.

6. Three vendors, Day Wireless, R.E. Myers and Associates, and Motorola Corporation, provided clear evidence of statewide wireless infrastructure that could be used as part of the final OWIN solution. All three reported clear examples of redundant spending, failure to take advantage of existing wireless assets, and related cost-wasting practices.

7. R.E. Myers and Associates provided both verbal and written testimony that clearly showed that there was little, or no interest, by ODOT/OWIN in further utilizing its existing wireless services in Eastern Oregon.

8. Day Wireless provided both verbal and written testimony that clearly showed that there was little interest by ODOT/OWIN in further utilizing Day's existing wireless services, or having Day Wireless totally develop sites and towers for the state at Day Wireless's expense (and then lease these facilities back to the state).

9. OWIN/ODOT provided significant detail regarding the $31 million spent so far on OWIN. According to ODOT, all of this spending is salvageable and there is approximately $13.8 in readily identifiable fixed assets from these expenditures.

10. The public testimony clearly showed that the high OWIN solution costs are: a) partially the result of the severe disrepair of the state's wireless emergency network infrastructure; b) partially the result of the highly sophisticated network design that Federal Engineering, Inc. proposed; c) partially the result of OWIN Project management failing to fully utilize cost savings lessons learned from other states; and d) partially the result of OWIN Project management failing to fully utilize the available wireless infrastructure assets of both the public and private sector. Lower cost alternatives appeared to be readily available.

11. The existing ODOT/OWIN $146 million proposal for meeting the 2013 FCC mandate doesn't preclude a final SOS solution, but it provides a more expensive SOS than would have been possible had a "bottom-up" implementation been utilized. The implementation of the $146 million proposal does not mean that the state might not ultimately wind up back at the $598 million Federal Engineering, Inc. design proposal.

Design-Related Findings

12. The original OWIN design plan was to build a statewide microwave backbone via 300+ sites, and many public and private entities would come and attach to it. Several independent vendors have clearly stated that the proposed Federal

Engineering, Inc. network design is elegant, complex, workable, but expensive to develop and maintain.

13. Only one major option (with two flavors) has been considered for the OWIN network since the original Federal Engineering, Inc. Business Case was completed in 2007. The "SOS" option, presented by Motorola Corporation at the March 8, 2011 hearing, is the only other comprehensive design option that has been proposed since 2007.

14. In Federal Engineering Inc.'s Business Case for OWIN in 2005, an SOS "architectural approach" was listed as a key strategy in the development of implementation of the OWIN network. In 2007, OWIN and the State Interoperability Executive Council (SIEC) both jointly embraced an SOS network design as a key strategy for OWIN. To date, there is little evidence that an implementation plan for the SOS strategy was ever developed, much less implemented.

15. It was clear from testimony at both hearings, that SOS is not new, is not proprietary, is not a vendor specific solution, and does not have major security issues. It is also clear that it is an industry best practice, and is recommended by the Department of Homeland Security.

16. Scott Winkels, from the League of Oregon Cities, testified that he and his organization were strongly in support of the SOS network design and implementation strategy for OWIN.

17. Motorola Corporation provided a detailed presentation on an option for implementing SOS across the state of Oregon's emergency wireless network. The presentation showed possible major cost savings and dealt with the common issues of linking together proprietary networking communications in an environment of diverse equipment. Little or no interest was shown by ODOT/OWIN in looking further into this possible cost-saving option.

18. Clear examples of SOS were shown in seven southern Oregon counties and in Eastern Oregon, but these efforts were apparently started by private or local government efforts, and there is little evidence that they were initiated due to an ODOT/OWIN action. For such a centerpiece strategy in the original OWIN plans, little evidence was presented that SOS has played much, if any, part in the design, development, and implementation of the new OWIN network. ODOT/OWIN did provide evidence that it understood the challenges of SOS, but not its benefits.

19. Several vendors (Motorola Corporation, Day Wireless, and R.E. Meyrs and Associates) clearly provided information on the dozens of workable solutions that other jurisdictions (in and out of state) have used to meet the same needs that OWIN is addressing.

Going-Forward

20. ODOT/OWIN has proposed a go-forward strategy to deal with the 2013 FCC deadline, including key infrastructure that is failing, and that is essential for dealing with the replacement of the state's existing aging microwave infrastructure. At this time, the initial estimate for this go-forward strategy is $146 million in one-time costs (with an estimated $14.5 million per biennium ongoing maintenance costs). ODOT/OWIN is reviewing these costs to make sure that they are accurate. It is highly likely that they may go up as more is learned.

21. The $146 million option will not address all of the original four key HB2101 (2105) "goals." It will address only part of the "infrastructure repair/replacement" goal, all of the "narrowbanding" goal, only part of the "consolidation" goal, and a very small part of the "interoperability goal" (state agencies only).

22. OWIN/ODOT provided only one other go-forward option than their proposed $146 million dollar option. This "radios only" option would focus simply on replacing the state's existing radio equipment. This narrowbanding solution would cost $49 million, but it would come with very high risks (i.e. the existing state analog microwave system would not be replaced and part, or all of it, could fail at any time). At the $49 million cost level, funding would only be available to replace the 6000+ existing state radios. Insufficient funding to address much needed upgrades to existing state wireless analog microwave infrastructure would not be provided. This appeared to be a viable option, but the risks are significant. However, the risks did not seem to be significantly greater than what the state has lived with for the past five to ten years.

23. Motorola Corporation testified that it thought the state's proposed $49 million "radios only" option was higher in cost than it needed to be, and that there were other options for replacing some, or all, of the state's existing radios for significantly less money (i.e. in the $25-30 million range) and still meet the FCC's 2013 mandate. Specific details of what would be replaced, and what wouldn't, were not provided.

Recommended Next Steps

Upon approval of these findings by the JCLAIMT, they will be provided to the Legislative OWIN Workgroup, the Legislative Ways and Means Co-chairmen, and legislative leadership for their review and use in providing direction to the ODOT/OWIN project team.