

PACTS RTMS Subcommittee Meeting

Tuesday, June 8, 2021
10:00 AM – 11:30 AM
Meeting Agenda

*Zoom webinar: <https://us02web.zoom.us/j/86529971255>
Phone: (301) 715-8592 Webinar ID: 865 2997 1255*

As of March 31, 2020, PACTS and GPCOG are holding all committee meetings via [Zoom conferencing technology](#). We remain committed to full public access and participation in our meetings through remote access during the COVID-19 crisis. Remote meetings will be held in accordance with the requirements of [LD 2167, Public Law Chapter 618](#).

Both the chat and Q&A features will be turned off during PACTS and GPCOG meetings to ensure full public access to telephone participants and to avoid the confusion of side conversations.

*Public comment will be taken verbally during the public comment period. Members of the public who wish to speak should "raise their hands." Participants joining by computer or mobile app can click on the "Raise Hand" button. Participants joining by telephone can dial *9.*

1. Welcome

This meeting is being recorded and will be made available at gpcog.org/AgendaCenter.

2. Public Comment 5 minutes

Members of the public are welcome to provide up to three minutes of public comment on items not on this agenda. For items on this agenda, additional opportunity for public comment will be provided after the item's staff report.

3. Acceptance of Previous RTMS Meeting Minutes 5 minutes

4. RTMS System Options 30 minutes

Discussion and a vote to approve one of the PACTS RTMS System options presented and recommend the option for the Executive Committee's consideration.

5. Funding Options Update 10 minutes

Discussion regarding recent congressional earmarks.

6. Adaptive Traffic Signals

20 minutes

Discussion regarding Portland's experience with Adaptive Traffic Signals

7. Other Business

8. Adjourn.

3. Acceptance of Previous RTMS Meeting Minutes

Contact	Harold Spetla, staff
Recommended action	Accept previous Regional Traffic Management System Subcommittee (RTMS) Meeting Minutes
Attachments	3—2021-04-13 PACTS Regional Traffic Management System Subcommittee (RTMS) Meeting Minutes

The previous meeting of the PACTS Regional Transportation Advisory Committee (RTAC) was held on Tuesday, April 13, 2021. Minutes from the meeting are attached.

Recommended action: Accept previous Regional Traffic Management System Subcommittee (RTMS) meeting minutes.

PACTS Regional Traffic Management System Committee Meeting Notes

Tuesday, April 13, 2021

10:00 AM -11:30 AM

Remote Meeting

In Attendance:

Committee Members	Affiliation	Attendance
Tom Milligan	Biddeford	Y
Bob Burns, Vice Chair	Gorham	Y
Steve Landry	MaineDOT	Y
Jeremiah Bartlett, Chair	Portland	Y
Travis Moore	Saco	N
Stephen Buckley	Scarborough	Y
Justin Gove	South Portland	Y
Katherine Kelley	Westbrook	Y
Mark Arienti	Windham	N
Guests		
Brad Lyon	Sebago Technics	
Curtis Thompson	Sebago Technics	
For GPCOG		
Elizabeth Roberts, Harold Spetla, and Chris Chop		

1. Welcome- Jeremiah Bartlett, Chair

Jeremiah opened the meeting at 10:09 AM. Steve Landry had requested that the “MaineDOT Signal Initiatives” agenda item be shifted to the front of the agenda.

2. Public Comments

There was no public comment.

3. Acceptance of 2/9/21 Notes

There were no comments on the 2/9/21 meeting minutes. Bob Burns moved to accept the notes from 2/9/21, Jeremiah Bartlett seconded. There were none opposed.

4. MaineDOT Signal Initiatives

Steve Landry presented an update on the MaineDOT signal initiatives, a multi-year undertaking assessing the needs and future of traffic signals throughout the state.

MaineDOT received an \$18 million BUILD grant, which turned into a \$25 million project that went out to bid. Construction should begin in Summer 2021. MaineDOT also put in for an Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) grant to update 40+ traffic signals maintained by MaineDOT to enable communication between signal and MaineDOT's Traffic Management Center (TMC). This will be a cost saving upgrade.

Steve expressed that out of the Traffic Mobility Report, MaineDOT wanted to switch over to the Advanced Traffic Controller (ATC) platform. The ATC platform/cabinet is divided into "plug and play" and "energized" doors or sections. This platform allows operators who are not licensed electricians to go into the cabinet for problem solving. New traffic signals will also be equipped to communicate with autonomous and connected vehicles. MaineDOT has also decided to install reflective back-plating on new traffic signals and flashing yellow arrows.

Elizabeth asked Steve how many signals were connected with the MaineDOT TMC and how those signals were connected. There are four signals connected now, but MaineDOT plans to connect 100 additional signals with grant funding. MaineDOT will start off communicating via cell modems because MaineDOT does not have an existing fiber connection.

Elizabeth followed up by asking about RTB Push Buttons for pedestrian crossings, which are pedestrian detection devices that require no moving parts and rely on radar-esque technology to recognize when a pedestrian is approaching a crossing. MaineDOT is in the testing stage for this type of push button, but one major concern is that they're made of plastic and can be easily vandalized. The cost saving benefit could be offset by saving 1-2 maintenance calls.

5. Missing Inventory Information

Brad Lyon updated the committee on Sebago Technics signal inventory following the receipt of additional signal information from committee members. Brad identified the remaining intersection signals that need to be inventoried to determine whether signals can be integrated into a central system.

Sebago Technics requested that any members with capacity take pictures of the cabinet, controller (zoomed in), and the back panel (zoomed in where load switches are located) for signals identified in the list for the 4/13/21 meeting agenda packet. Elizabeth Roberts also noted that she would distribute the list of signals needed via email. Brad requested updates from members by May 25th.

6. System Engineering Survey Results

In February, Sebago Technics distributed a questionnaire to all PACTS RTMS communities gauging agreement/disagreement and prioritization. Sebago Technics averaged the question priorities to develop an “overall regional priority” ranking. They also developed a percent distribution based on responses to each question. The highest rated priority was to have an RTMS network that communicates faults/alerts automatically. The second highest rated priority was for a system accessible only to individuals responsible for operation of the traffic signals. The third priority was to support a network that allows remote access to signal timing at high volume/priority intersections. The fourth priority was a single software that supports all of the signals within PACTS RTMS. The fifth priority was to allow traffic signal operators to access and adjust the timing for all the traffic signals within the network. The lowest rated priority was that the traffic signal management software should be easily accessible to all users.

Sebago Technics is recommending a vendor neutral network which allows municipalities to select the controllers they would like to use (related to maintenance) while being compatible with the server that PACTS selects for operations. Brad emphasized that PACTS should lean toward flexibility moving forward because it is very difficult to predict future technologies. Jeremiah Bartlett reiterated this point and suggested considering performance measures when selecting a system. Stephen Buckley also supported a flexible model to avoid forcing municipalities into a single provider.

7. Funding Options

PACTS submitted an RTMS funding request for potentially earmarked transportation funds at the April 6th PACTS Executive Committee meeting. The approach is to secure short-term funding that will pay for implementation of the outlined needs within the region. If the request for earmarked funds is unsuccessful, staff will submit an application as part of the PACTS Complex Projects program.

Justin Gove asked how PACTS could present this as a publicly appealing project for the earmarked funds. Chris Chop noted there was a public engagement opportunity and feedback was presented to the PACTS Executive Committee. The Committee requested additional information from Congresswoman Pingree’s office, so the process is still ongoing as of this April RTMS meeting.

8. Adjourn.

Prior to adjournment, Elizabeth Roberts proposed shifting the meeting date from July to June. There was no opposition.

Tom Milligan made the motion to adjourn and Bob Burns provided a second. All were in favor of adjournment at 11:37 AM.

4. RTMS System Options

Contact	Elizabeth Roberts, staff
Recommended action	Approve one of the options presented and recommend the option for the Executive Committee's consideration
Attachments	4—PACTS RTMS Central System Options

At the February 9th RTMS subcommittee meeting, Sebago Technics presented cost information for three different options to upgrade the PACTS RTMS Server and Software. They also sent out a survey to municipalities to gather the priorities going forward for the PACTS RTMS server. At the April 13th meeting, Sebago Technics showed the results of the survey of members' RTMS priorities and how the different system architectures met those priorities and provided a recommendation. Cost information from the February 9th meeting is attached. Possible options are the following:

- Option 1 – Upgrade Portland ATMS.Now Server
- Option 2 – Cloud Based ATMS.Now Server
- Option 3 – NTCIP Based Central System
- Option 4 – A combination of Option 3 and Options 1 or 2

Recommended Action: Approve one of the options presented and recommend the option for the Executive Committee's consideration

Option 1: Upgrade Portland ATMS.Now Server

56 Signals Currently Connected
 61 Added Signals from Other Systems
 142 Existing Signals to be Connected
 41 Reserve Capacity

Costs for 300 Intersections:

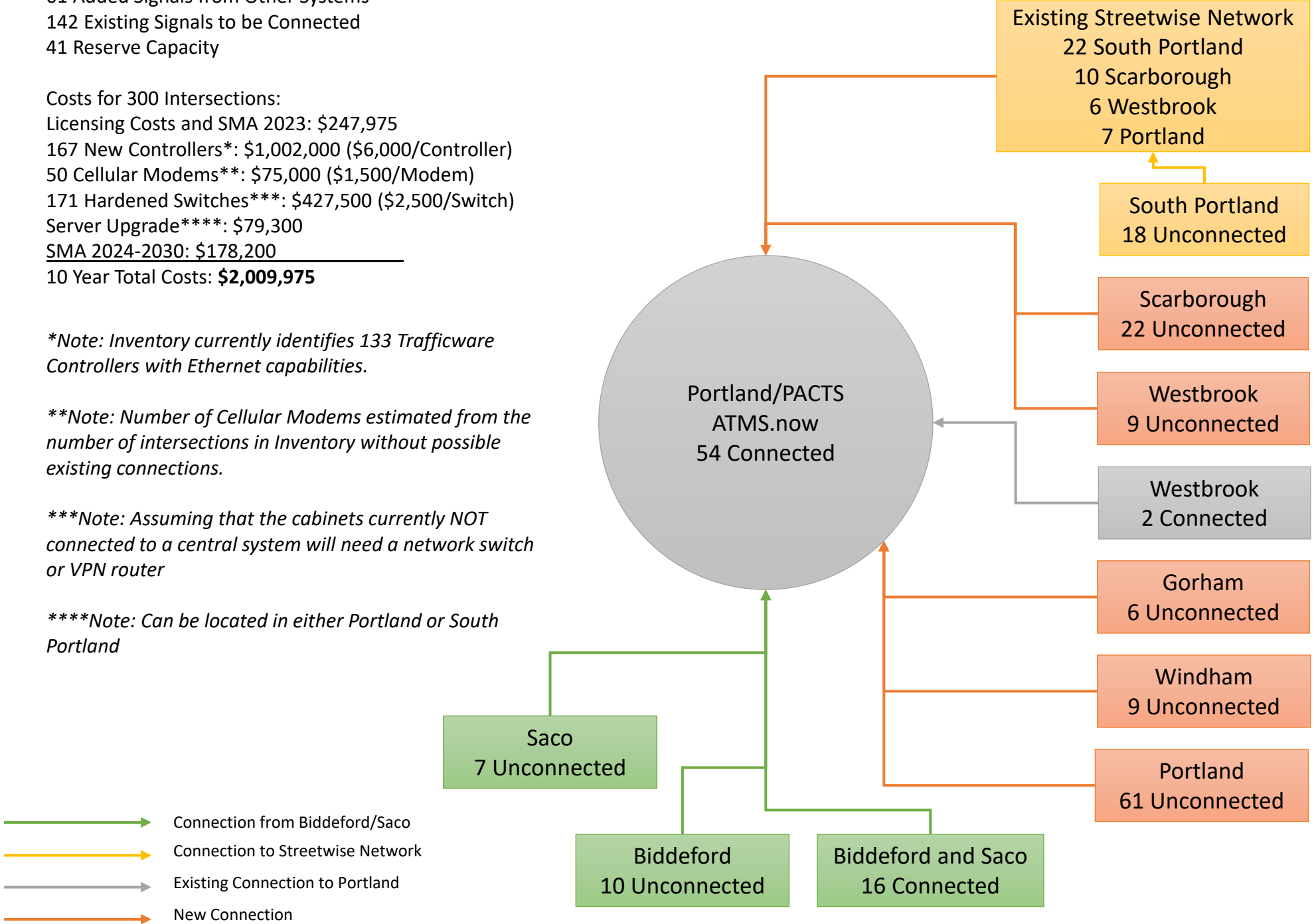
Licensing Costs and SMA 2023: \$247,975
 167 New Controllers*: \$1,002,000 (\$6,000/Controller)
 50 Cellular Modems**: \$75,000 (\$1,500/Modem)
 171 Hardened Switches***: \$427,500 (\$2,500/Switch)
 Server Upgrade****: \$79,300
SMA 2024-2030: \$178,200
 10 Year Total Costs: **\$2,009,975**

*Note: Inventory currently identifies 133 Trafficware Controllers with Ethernet capabilities.

**Note: Number of Cellular Modems estimated from the number of intersections in Inventory without possible existing connections.

***Note: Assuming that the cabinets currently NOT connected to a central system will need a network switch or VPN router

****Note: Can be located in either Portland or South Portland



Option 2: Cloud Based ATMS.Now Server

117 Signals From Existing Connected
 142 Existing Signals to be Connected
 41 Reserve Capacity

Costs for 300 Intersections:

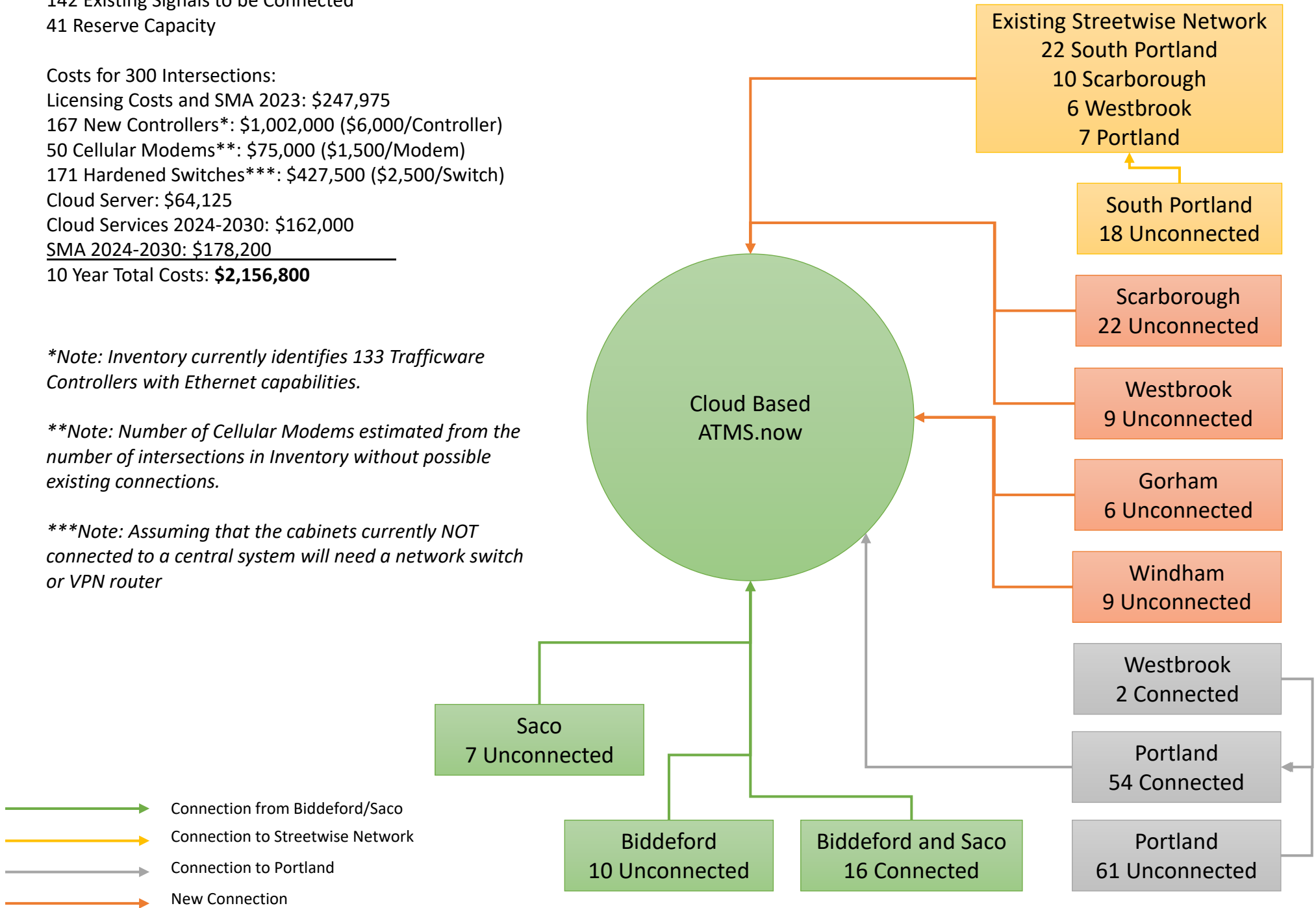
Licensing Costs and SMA 2023: \$247,975
 167 New Controllers*: \$1,002,000 (\$6,000/Controller)
 50 Cellular Modems**: \$75,000 (\$1,500/Modem)
 171 Hardened Switches***: \$427,500 (\$2,500/Switch)
 Cloud Server: \$64,125
 Cloud Services 2024-2030: \$162,000
 SMA 2024-2030: \$178,200

 10 Year Total Costs: **\$2,156,800**

*Note: Inventory currently identifies 133 Trafficware Controllers with Ethernet capabilities.

**Note: Number of Cellular Modems estimated from the number of intersections in Inventory without possible existing connections.

***Note: Assuming that the cabinets currently NOT connected to a central system will need a network switch or VPN router



Option 3: NTCIP Based Central System

117 Signals From Existing Connected
 142 Existing Signals to be Connected
 41 Reserve Capacity

Costs for 300 Intersections:

Software: \$33,750

0 New Controllers*

0 Cellular Modems**

0 Hardened Switches**

Server: \$20,000***

Field Monitor Units: \$1,500,000 (\$5,000/Units)

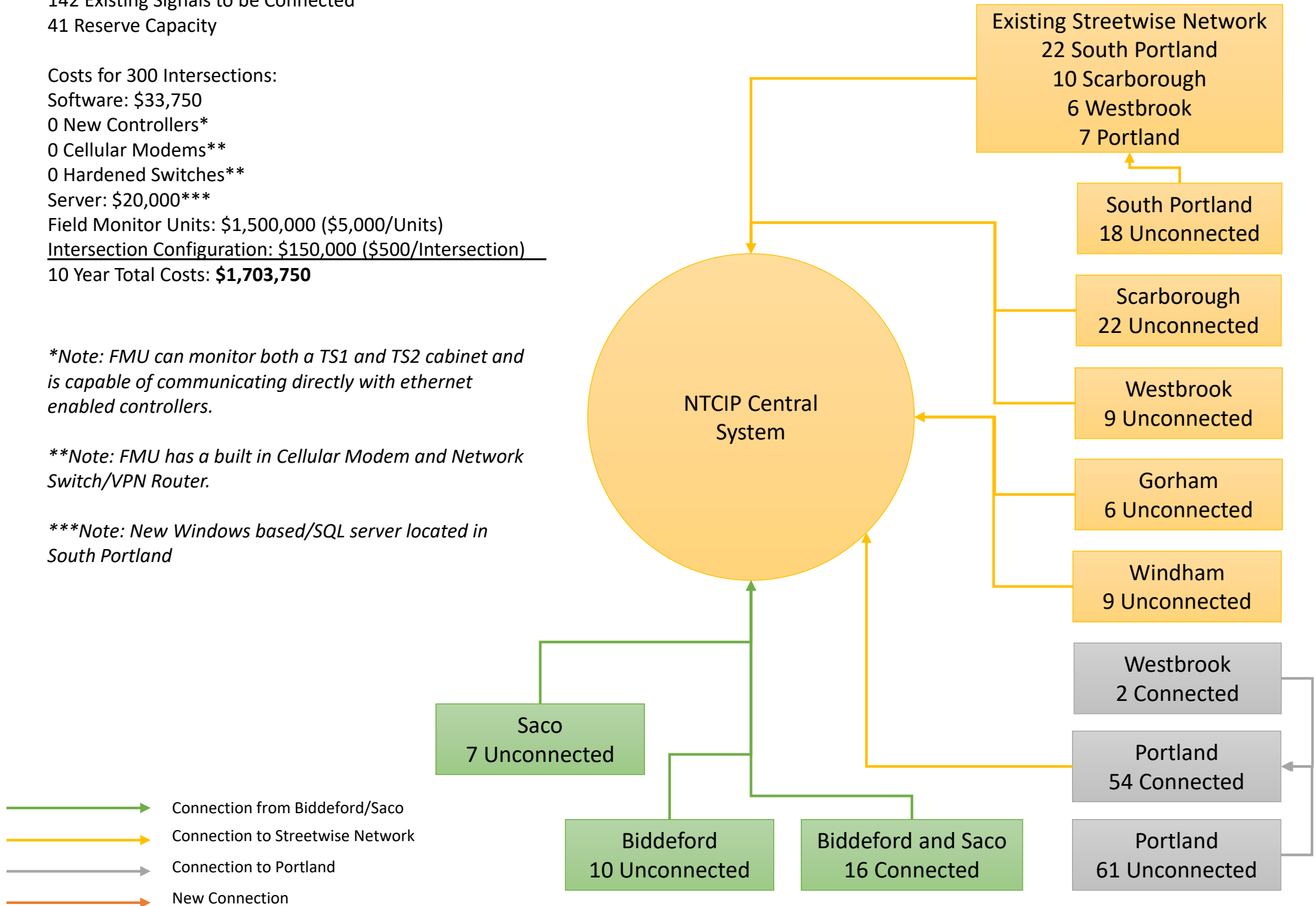
Intersection Configuration: \$150,000 (\$500/Intersection)

10 Year Total Costs: **\$1,703,750**

*Note: FMU can monitor both a TS1 and TS2 cabinet and is capable of communicating directly with ethernet enabled controllers.

**Note: FMU has a built in Cellular Modem and Network Switch/VPN Router.

***Note: New Windows based/SQL server located in South Portland



5. Funding Options Update

Contact	Elizabeth Roberts, staff
Recommended action	Information Only
Attachments	

Previously, on April 6, the Executive Committee approved a list of projects, which included the PACTS RTMS server upgrade, to submit to Congresswoman Pingree's office and to MaineDOT for inclusion in MaineDOT's statewide list for potential earmarks. The project was submitted, but not selected.

Recently, Senators Collins' and King's offices notified GPCOG of an opportunity for potential additional transportation earmark funding and asked PACTS to provide priority projects to consider submitting for funding. GPCOG is planning to submit the RTMS server upgrade as part of a package that includes transit signal priority and transit accessibility improvements to Senators Collins and King for a potential earmark.

Recommended Action: For information only

6. Adaptive Traffic Signals

Contact	Jeremiah Bartlett, chair
Recommended action	Information Only
Attachments	

Jeremiah Bartlett will discuss Portland's experience with Adaptive Traffic Signals, including background information, data, advantages, and disadvantages.

Recommended Action: For information only