



Storm & Surface Water Plan Update

Utilities Advisory Committee

September 7, 2017



Storm and Surface Water Plan Update

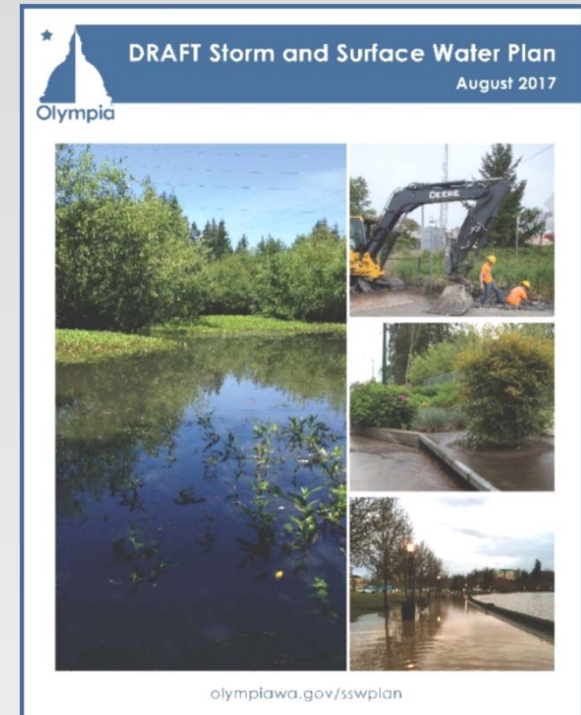
Agenda

- Quick Review - **The What:**
 - Our mission & responsibilities
- Quick Review - **The Why:**
 - Regulatory environment
 - Flooding challenges
 - Water quality challenges
 - Aquatic habitat challenges
- Primary Focus - **The How:**
 - Current core services
 - Recommended enhancements
- Questions and Discussion

Storm and Surface Water Plan Update

Formatted to Tell Our Story

- The **“What”** Chapters:
 - Chapter 1 – Introduction
 - Chapter 2 – Context and Trends
 - Chapter 3 – Surface Water Management
 - Chapter 4 – Built and Natural Infrastructure
- The **“Why”** Chapters
 - Chapter 5 – Legal and Policy Framework
 - Chapter 6 – Flooding
 - Chapter 7 – Water Quality
 - Chapter 8 – Aquatic Habitat
- The **“How”** Chapters
 - Chapter 9 – Core Services
 - Chapter 10 – Strategies
 - Chapter 11 – Capital Improvement Program
 - Chapter 12 – Financial Program



Storm and Surface Water Plan Update

Formatted to Tell Our Story

- Appendices – PENDING
 - Comprehensive Plan Goals/Policies
 - Basin Characteristics
 - Water Quality Data and Analysis
 - Implementation Plan – Program Plan Template
 - Stormwater Management Plan Financial Analysis



What is the Utility Responsible To Do?

Responsibilities:

- Flooding
- Water Quality
- Aquatic Habitat



What is the Utility Responsible To Do?

Storm and Surface Water Plan Goals

- Goal 1:** Reduce the frequency and severity of flooding so hazards are eliminated.
- Goal 2:** Improve surface water quality.
- Goal 3:** Protect, enhance, and restore aquatic habitat functions provided by wetlands, streams, lakes, marine shorelines, and riparian areas.
- Goal 4:** Ensure reliable functioning of the built and natural stormwater infrastructure.
- Goal 5:** Manage Utility finances responsibly and recover costs equitably.



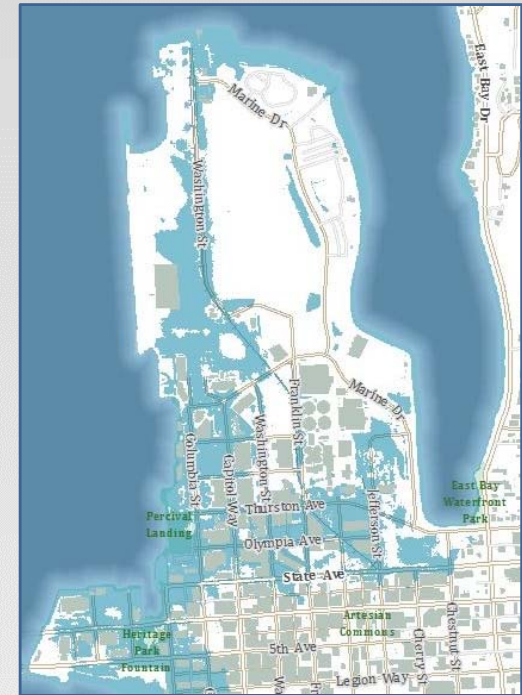
Why Do We Do What We Do?

Municipal Stormwater Permit Requirements

- Keep an updated Stormwater Management Program Plan.
- Maintain an education and outreach program for source control.
- Maintain an inventory and mapping of the stormwater infrastructure.
- Implement an Illicit Discharge Detection and Elimination (IDDE) program.
- Maintain a spill hotline.
- Implement and enforce the Drainage Design and Erosion Control Manual.
- Inspect and enforce erosion and sediment control.
- Annually inspect and maintain all city-owned stormwater facilities.
- Annually inspect and enforce maintenance of private stormwater facilities.
- Inspect (and clean) all city-owned catch basins on a 2-year cycle.
- Comply with the TMDL-specific requirements.
- Contribute to the Regional Stormwater Monitoring Program.
- Report to Ecology to document compliance with permit requirements.

General Challenges

- **Equitable and Predictable Rates and Fees**
 - Challenging in a complex regulatory environment.
- **Legacy Development**
 - Infrastructure was developed before stringent regulations.
 - Retrofits required, but more challenging than new construction.
- **Reliance on Choices by Individuals**
 - How the community maintains cars and lawns, increases impervious surfaces and removes backyard trees impacts our work.
- **Land Development Pressure**
 - Increased density creates increased impervious surfaces.
- **Climate Change and Sea Level Rise**
 - More frequent and intense winter precipitation.
 - Increasing investment in infrastructure required.



Flooding Challenges

Asset Management

- To increase understanding of infrastructure and its condition requires staff resources

Low Impact Development (LID)

- Increase in number of facilities with LID regulations
- Increase in inspections and maintenance as a result



Water Quality Challenges

Increasing Permit Requirements

- NPDES Municipal Stormwater Permit requirements changing.
- Requirements could result in less staff time available for other work.

Reliance on the Public for Nonpoint Pollution Prevention

- Nonpoint pollution has no clear single source.
- Challenging to educate people and change behaviors.



Aquatic Habitat Challenges

Multiple Public/Private Ownership

- The Utility must rely on voluntary programs to encourage stewardship on private properties.

Habitat Fragmentation

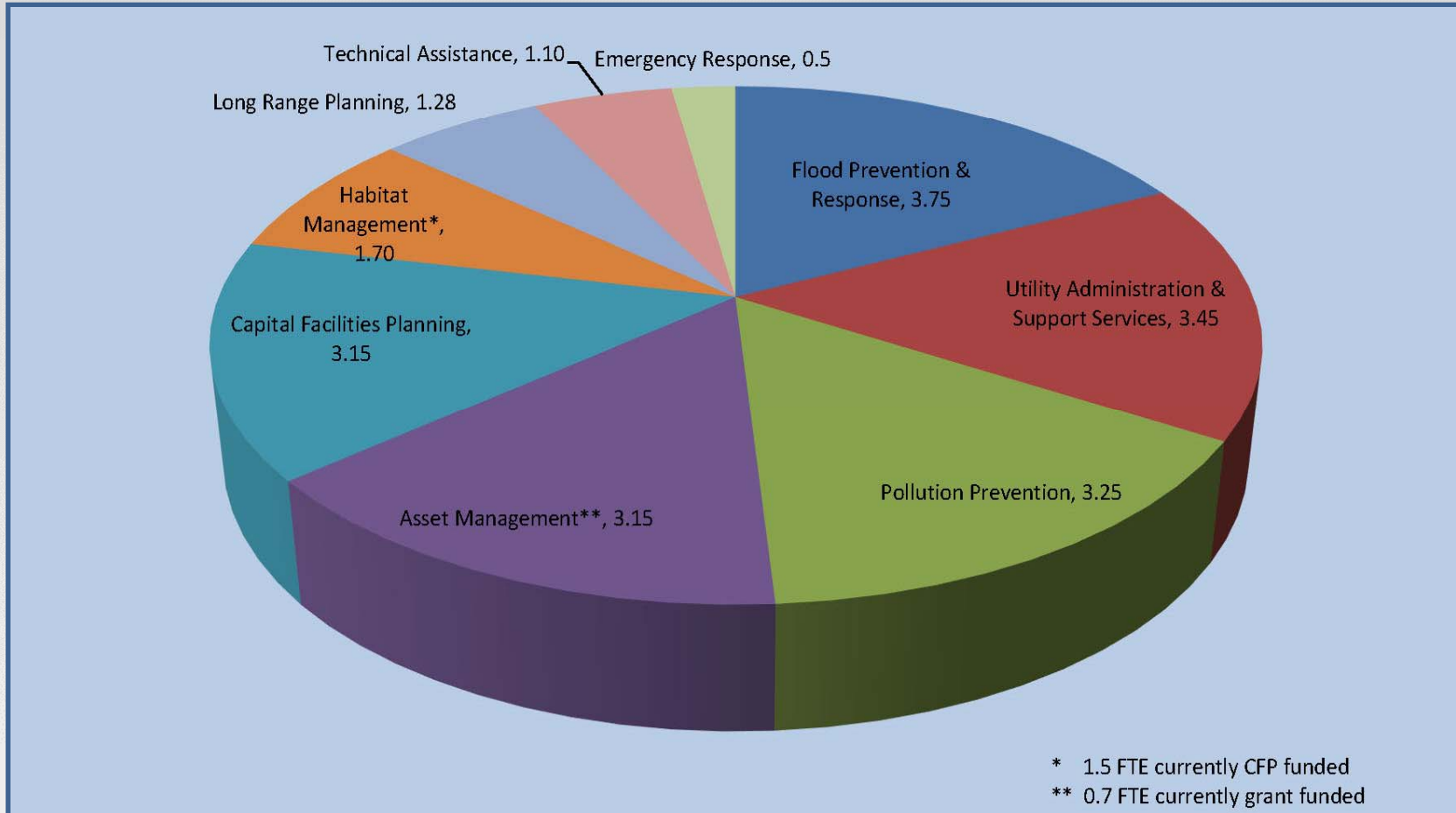
- Improving habitat on large tracts of land requires strategies that work across the landscape.

Legacy Impacts of Urban Development

- Maintaining functional habitat in an urban environment requires creativity and flexibility.



How Do We Address Responsibilities?



How Do We Address Responsibilities?

Long Range Planning Programs:

1. Storm and Surface Water Plan
2. Citywide Planning
3. Water Quality Coordination
4. Habitat Coordination
5. Standard Operating Procedures

Asset Management Programs:

1. Mapping
2. Condition Rating and Assessment
3. Public Infrastructure Management
4. Private Infrastructure Management
5. Water Quality Monitoring and Evaluation
6. Habitat Monitoring and Evaluation
7. Data Management

Capital Facility Program Programs:

1. Flooding
2. Water Quality
3. Aquatic Habitat



How Do We Address Responsibilities?

Technical Review and Support Programs:

1. Development Review
2. Internal/External Technical Support
3. Stormwater Operations Problem Solving Team

Flood Prevention and Response Programs:

1. Education and Outreach
2. Stormwater Facility Maintenance
3. Storm Event Preparation

Emergency Response Programs:

1. Storm Event Response
2. Emergency Response Plan

Utility Administration and Support Services Programs:

1. Budgeting
2. Staff Management
3. Support Services



How Do We Address Responsibilities?

Pollution Prevention Programs:

1. Education and Outreach
2. Illicit Discharge Prevention
3. Illicit Discharge Investigation
4. Spill Response
5. Stormwater Facility Inspection and Maintenance
6. Street Sweeping
7. Solids Management

Habitat Management Programs:

1. Education and Outreach
2. Stewardship Planning
3. Restoration and Enhancement
4. Aquatic Habitat Monitoring
5. Noxious Weed Coordination
6. Collaboration with Partners



How Do We Propose Addressing Our Challenges?

Strategies

- Continue core services
 - No reductions recommended
- Enhance core services
 - Reorganization of resources
 - Limited new resources
- Capital Facilities Program

Strategies		Enhance	Continue
Goal 1 – Reduce the frequency and severity of flooding so hazards are eliminated			
1-1	Identify conveyance capacity problems in the City system. Develop a priority ranking procedure for correcting flooding issues.	CFP	FP
1-2	Evaluate possibilities for regional, City-owned detention facilities and support design and construction where determined feasible through basin planning.	CFP FP	
1-3	Evaluate existing public stormwater detention facilities for effectiveness and potential improvements.	CFP FP	
1-4	Provide information to customers to help investigate and solve drainage issues at their homes or businesses.		TR
1-5	Ensure public and private development complies with the City of Olympia Drainage Design and Erosion Control Manual.		TR
1-6	Provide public education and outreach on how to reduce stormwater runoff.		FP
1-7	Develop post-construction inspection and maintenance capabilities for public stormwater facilities. Focus should be on LID implementation, staffing, and training.	FP	
1-8	Map impervious and pervious surfaces and track implementation of LID stormwater facility installations.		AM
1-9	Encourage use of permeable paving materials and native vegetation in Public Works construction projects.		TR
1-10	Consolidate downtown outfalls to improve manageability.	FP CFP	
1-11	Install tide gates on downtown outfalls to reduce flood risks.	FP CFP	
1-12	Consider separation of storm drainage from combined sewers to protect wastewater treatment plant (LOTT).	FP CFP	
1-13	Develop structural alternatives to mitigate long-term or projected sea level rise impacts.	FP CFP	
1-14	Provide emergency response training to staff.		FP ER
1-15	Respond in a timely manner to emergencies with adequate resources.		FP ER
1-16	Coordinate with other City departments, agencies and local entities to be prepared for emergencies.		FP ER
1-17	Partner with Planning & Engineering, Olympia Fire Department, State and local agencies to develop and implement emergency response plans in the downtown core.		FP ER
1-18	Perform inspections, maintenance, repairs, and installations of Utility infrastructure in anticipation of sea level rise.		PP

How Do We Propose Addressing Our Challenges?

STRATEGY:		
CORE SERVICE(s):		
PROGRAM	COST ASSUMPTION	COST ESTIMATE
Priority Level: Regulatory Requirement:		

How Do We Propose Addressing Our Challenges?

Key Enhancement Recommendations Include:

- Permanently funding the pilot habitat program started in 2015.
- Expanding education and outreach efforts.
- Formalizing operating and planning procedures.
- Responding to requirements resulting from the Deschutes Total Maximum Daily Load process.
- Planning for anticipated sea level rise.
- Improving the asset management program.
- Modifying the street sweeping program to have a water quality focus.
- Developing a rate structure that provides an incentive to retrofit private stormwater systems to provide higher levels of treatment.

Example Enhancement Strategy Implementation Detail

STRATEGY 1.7 Develop post-construction inspection and maintenance capabilities for public stormwater facilities. Focus should be on LID implementation, staffing, and training.

CORE SERVICE(s): Flood Prevention, Pollution Prevention

New LID regulations and development standards are expected to result in the construction of significant quantities of new LID infrastructure.

In 2016, an Operations and Maintenance (O&M) impact analysis was completed as part of the LID code amendment process. This analysis determined that the SSW Utility would need to expand staffing and equipment within the O&M Division of the SSW Utility in order to meet the operational demands created by new LID facilities.

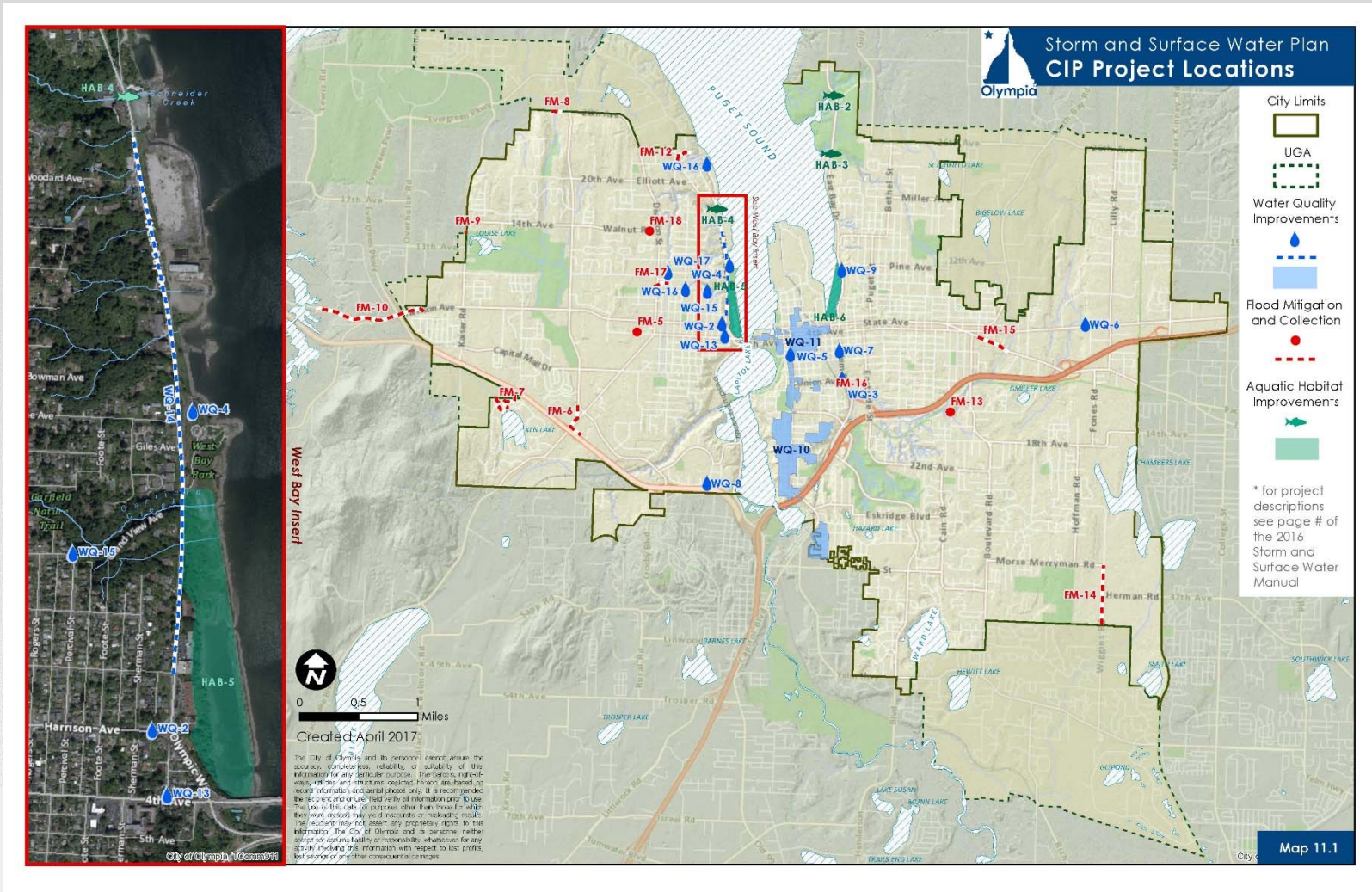
The impact analysis estimated that an additional 0.5 FTE would be required each year to support LID inspection and maintenance. Much of this work will be performed by seasonal staff, however supervision and year round operational support is also needed.

PROGRAM	COST ASSUMPTION	COST ESTIMATE
Stormwater Facility Maintenance (including vegetation management)	<ul style="list-style-type: none"> ▪ 1.0 FTE – Maintenance II (Starting 2019) ▪ 1.0 FTE – Maintenance II (Starting 2020) ▪ 1.0 FTE – Maintenance I (Starting 2023) ▪ 1.0 FTE – Maintenance I (Starting 2025) 	<ul style="list-style-type: none"> ▪ Med. Pick-Up Truck (Starting 2019, \$7,500 annually) ▪ Med. Pick-Up Truck (Starting 2020, \$7,500 annually) ▪ Med. Pick-Up Truck (Starting 2023, \$7,500 annually) ▪ \$25,000 /yr. increase seasonal labor starting 2026

Priority Level: High

Regulatory Requirement: Yes (NPDES)

How Do We Propose Addressing Our Challenges?



Financial Plan

	2017	2018	2019	2020	2021	2022
Revenues						
Rate Revenue at Existing Rates	\$5,029	\$5,041	\$5,053	\$5,064	\$5,076	\$5,087
Other Revenues	13	11	10	8	8	8
Total	\$5,042	\$5,052	\$5,063	\$5,072	\$5,084	\$5,095
Expenses						
Operating Expenses	\$4,504	\$4,662	\$4,854	\$5,062	\$5,283	\$5,442
Debt Service	123	123	208	431	426	422
System Reinvestment	688	909	1,200	1,400	1,600	1,700
Total	\$5,315	\$5,694	\$6,262	\$6,893	\$7,309	\$7,564
Net Cash Flow at Existing Rates	(\$273)	(\$642)	(\$1,199)	(\$1,821)	(\$2,225)	(\$2,469)
Annual Rate Adjustment		13.0%	13.0%	10.0%	7.0%	3.0%
Summary After Rate Adjustments:						
Rate Revenue	\$5,029	\$5,696	\$6,452	\$7,113	\$7,628	\$7,875
Net Cash Flow	(\$273)	(\$62)	\$39	(\$7)	\$34	(\$1)
Ending Operating Fund Balance ¹	\$1,109	\$971	\$554	\$548	\$581	\$580
Minimum Operating Fund Balance	\$450	\$466	\$485	\$506	\$528	\$544

Table 12.1 Revenue Requirement Forecast (\$000s)

¹ Ending balance reflects transfers in 2018 and 2019 totaling \$531,000 to the Capital Fund to pay for projects.

Next Steps

- **October 5, 2017 UAC Meeting – Recommendation**
 - January 4, 2018 UAC Meeting (Optional) – Review of Public Comment
- **Land Use and Environment Committee**
 - November 16, 2017
 - January 18, 2017 – Recommended Action
- **Draft Plan Availability and Public Comment**
 - Mid-November 2017
 - December 31, 2017
- **Public Hearing**
 - February 2018



Questions and Discussion



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