

Long-term light rail fleet & storage challenges

System Expansion Committee

06/08/23

Why we are here

- Discuss updated light rail fleet forecast and early identification of challenges
- Next steps
- Briefing only, no action needed today



Current assumptions that affect forecasts

Service levels

- ST3 Plan calls for 6-minute peak service on all lines by the 2040s

OMF capacity & timing

- OMF Central and OMF East have space for 200 vehicles, anticipated to be fully available in 2025
- 16 temporary storage spaces available when Federal Way extension opens
- OMF South and OMF North currently planned for 296 more vehicles in 2030s

Fleet expansion & replacement

- Current fleet provides 214 vehicles by 2025
- 246 more planned to support full ST3 system, for 460 total
- Oldest cars will be replaced in the 2030s

Updated & new assumptions

Respond to evolving conditions & lessons learned

Running times

- Slower operations in some areas requires additional run time throughout the entire system

Spare ratio

- More fleet out of service for daily maintenance to support reliable service

Fleet contingency

- Needed for unpredictable maintenance and unknown future needs, such as accident repair, warranty work, retrofits/upgrades, further system slowing

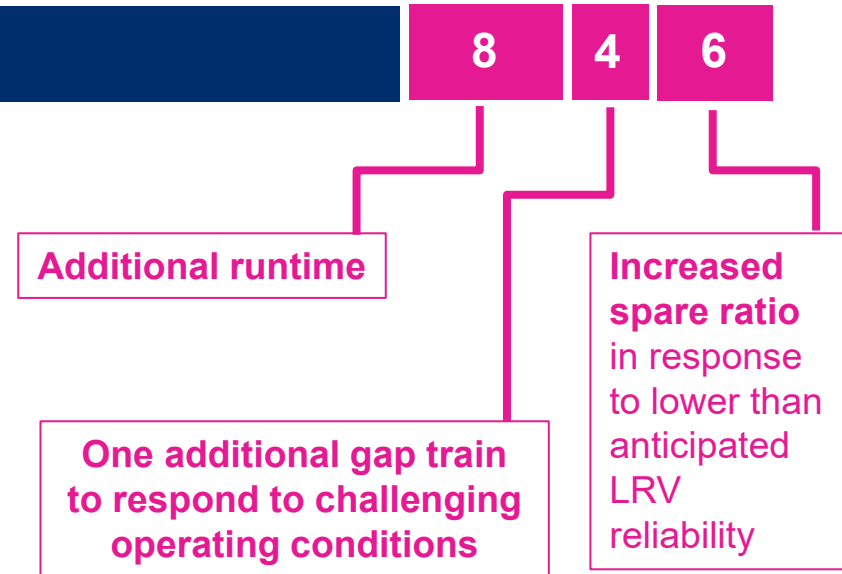
Current fleet requirements: Northgate-Angle Lake

4 car trains, 8-minute peak service

Using 92 vehicles currently

74 vehicles planned

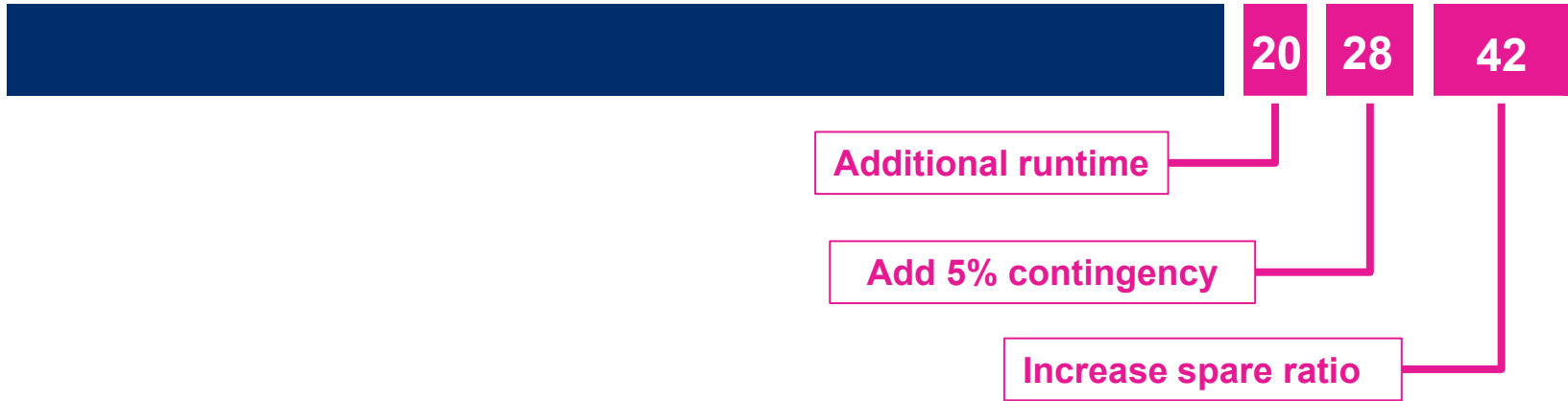
60 peak service
4 for gap trains
10 for 15% spare



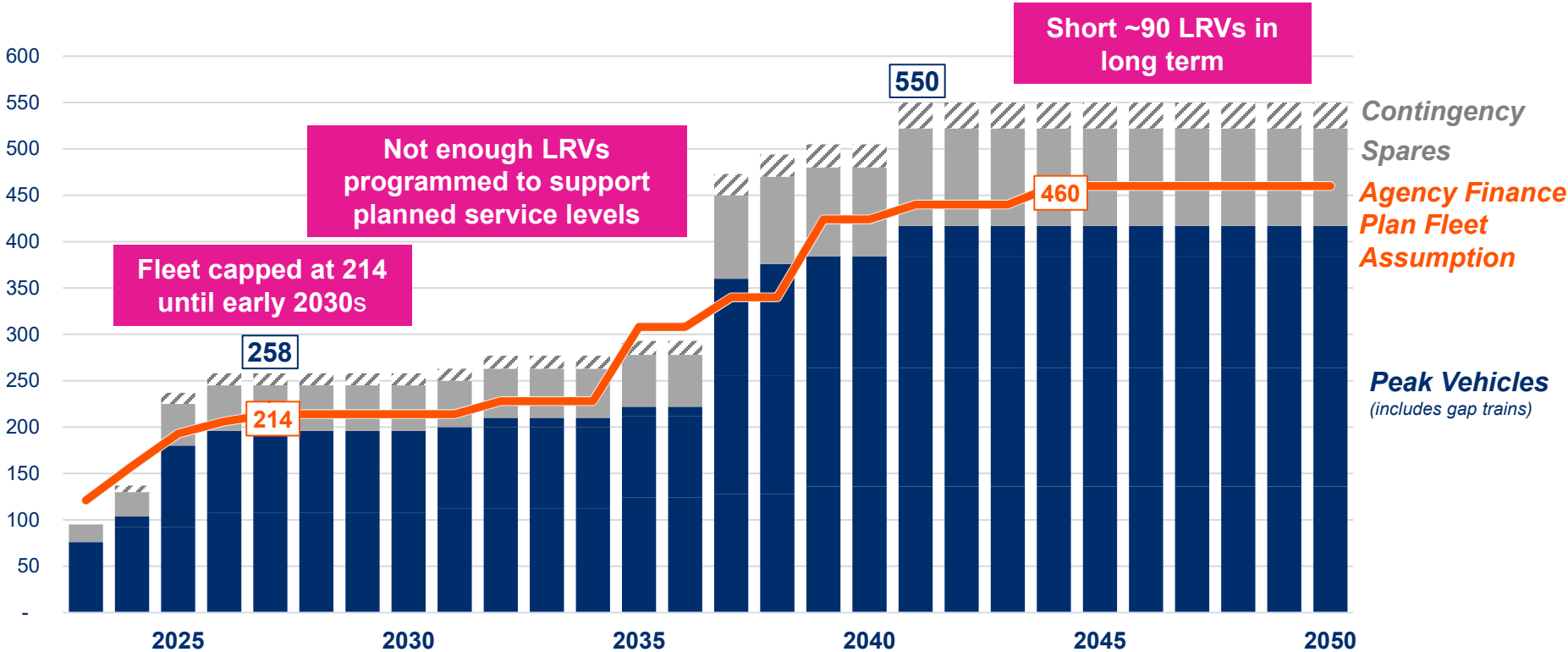
The big drivers of long-term need

460 vehicles assumed in agency finance plan

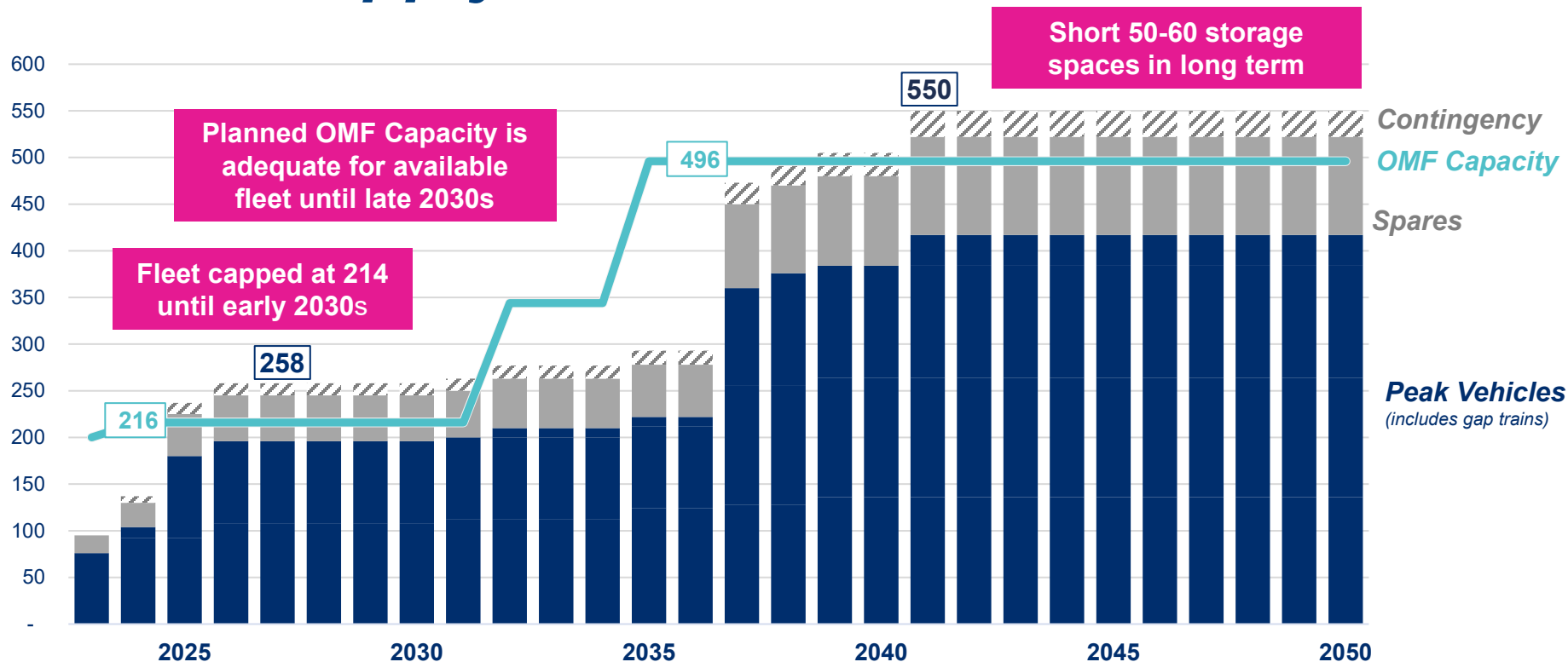
550 vehicles now needed to meet planned service level



Light rail fleet supply & demand



OMF supply & demand



Key challenges

Now through 2030

- 214 vehicles purchased to support the buildout of the ST2 system
- Those vehicles will no longer support all ST2 planned service
- OMF capacity severely limited until new OMFs open in 2030s

2030 through 2050

- Agency finance plan includes funding for 460 vehicles
- We now project needing 550, creating a gap of 90 cars by the time ST3 is built out
- OMF South and North support planned fleet – resize to support larger fleet

Options to address

Will develop this summer, informed by updated ridership forecasts

Near Term

- Lower the spare ratio and vehicle need if operating conditions improve
- Adjust ST2 service levels to available fleet until more cars are available

Long Term

- Increase efficiency of rail operations to save time & vehicles
- Purchase more light rail vehicles
- Add additional OMF capacity
- Adjust ST3 service levels to available fleet

Uncertainties

Conditions may change, requiring further adjustments in the future, for example:

..... if ridership forecasts change

..... if actual run times are different than currently forecast

..... if OMF space needs to manage vehicle maintenance and replacement change

Next steps

June-August

- Develop mitigation options and estimated costs

August REO & SEC

- Present near-term service options for mitigating capped ST2 fleet

September REO & SEC

- Present long-term mitigation options, costs and affordability
- **Seek Board direction on priorities**

Autumn

- Update plans to reflect Board direction

Thank you.



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