

# *Long-term light rail fleet & storage challenges*

*Rider Experience and Operations Committee*

*06/01/23*

# 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

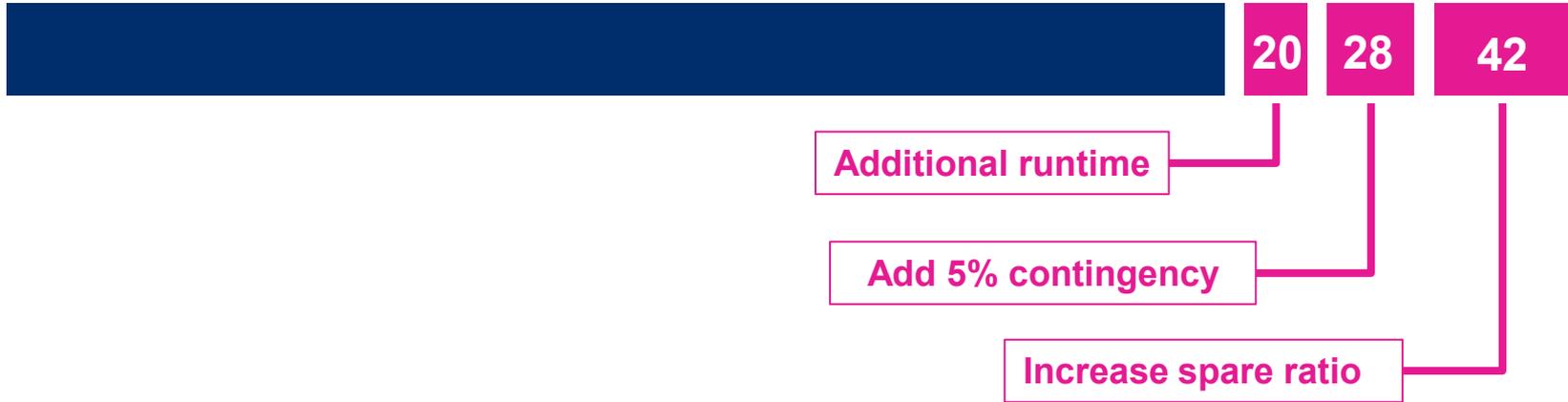
### Train lengths

- Sized by line to accommodate forecast demand

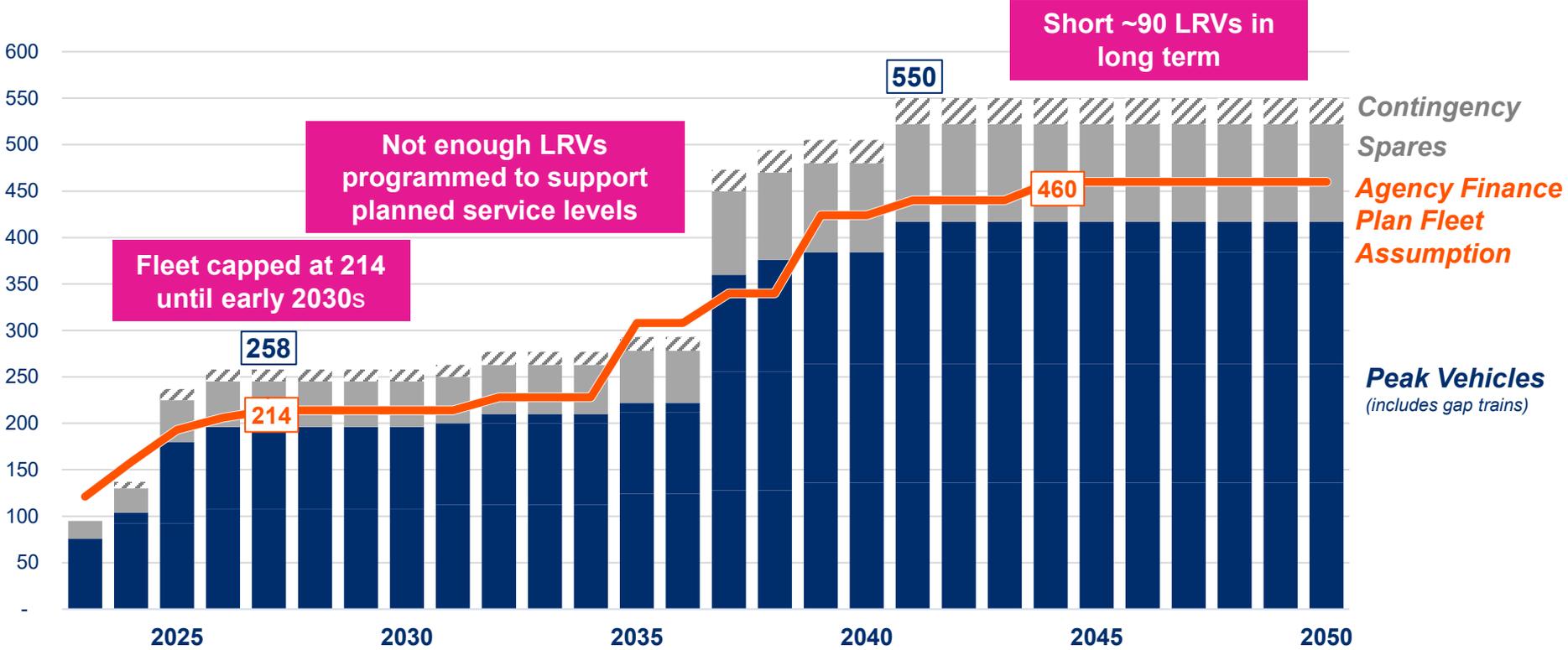
# The big drivers

**460 vehicles assumed in agency finance plan**

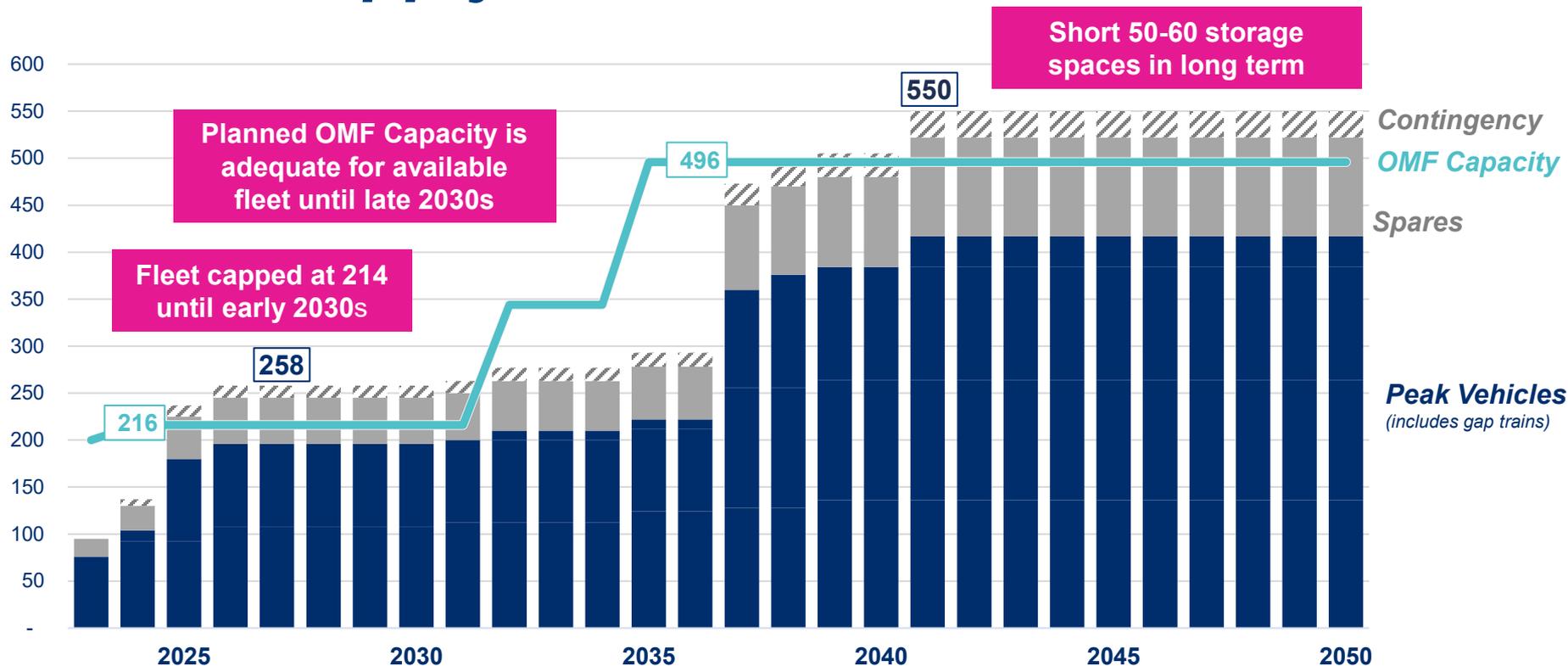
**550 vehicles now needed to meet planned service level**



# 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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