



# **UW Station Escalators**

**Briefing for the Sound Transit Operations and Administration Committee  
April 5, 2018**

# Agenda

- Customer experience principles
- Background on UW Station
- March 16 event overview
- Actions and timeline



# Customer experience

Positive and negative customer experiences have a direct effect on Sound Transit's overall brand equity.

Prolonged and/or increased negative experiences can:

- Damage brand reputation
- Affect ridership
- Diminish confidence to deliver quality and consistency

# Customer experience

Meeting and exceeding customer expectations is fundamental to delivering a superior customer experience.

- **Explicit expectations**
  - Targets for product performance; such as well-identified performance or industry standards (internal defined standards)
- **Implicit expectations**
  - Reflect established norms of performance set by business in general, other companies, industries and even cultures (customer defined standards)
- **Customer expectations are dual-leveled**
  - Desired and sufficient

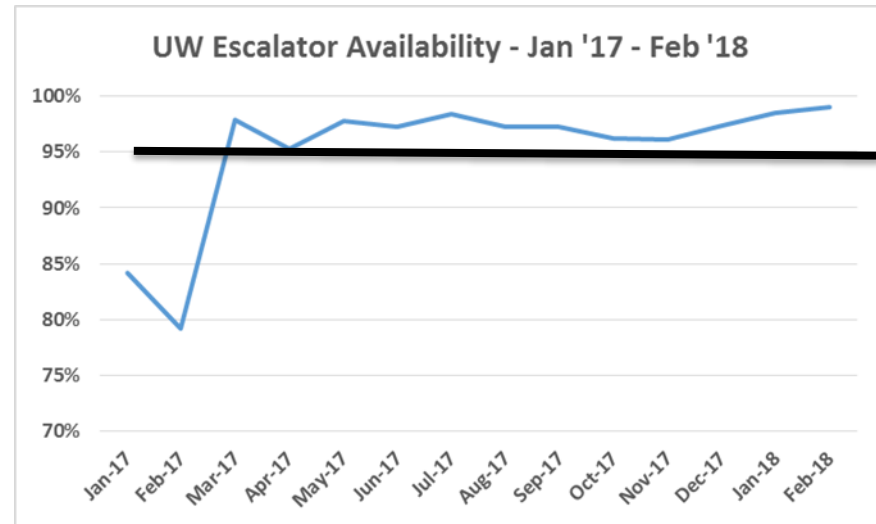
# Background

- UW Station access to 95' deep platform via
  - 13 escalators
  - Two elevators
  - Stairs:
    - Only down to Mezzanine (ticket level)
    - No public stairs to bottom two levels

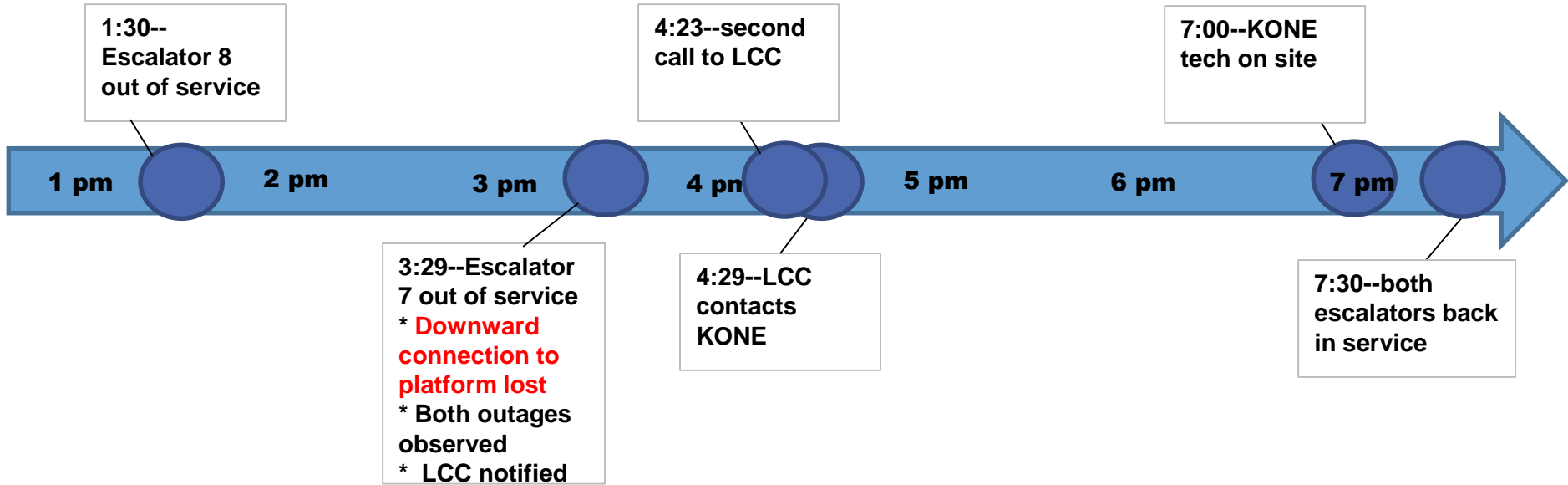


# Engineering study and recent performance

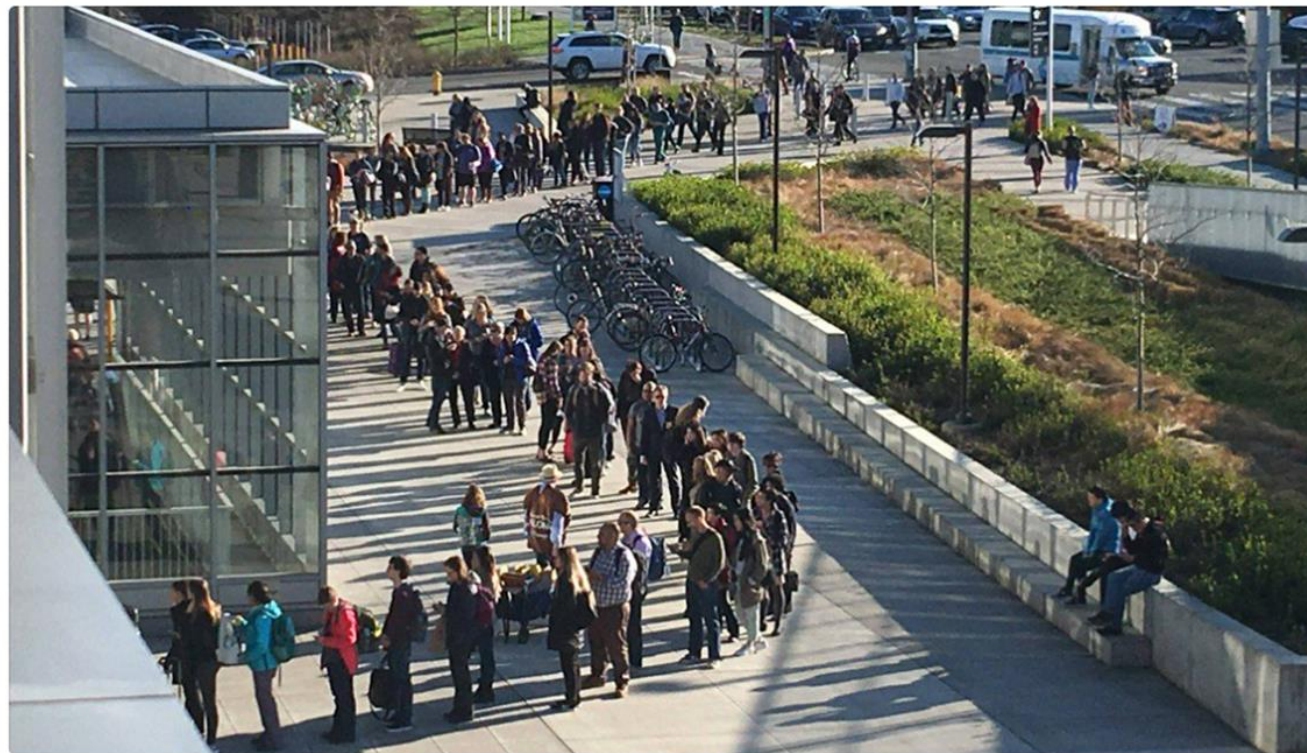
- Performance at UW Station conveyances had not met performance standard
  - 2017 engineering study
  - Implementing recommendations
  - Costs at UW 2x that of other stations
  - Result → performance over 97% in past 30 days



# March 16, 2018 event overview



# Customer complaints



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**KING 5 News** ✓  
@KING5Seattle

Broken escalators, long lines at the UW light rail station [kng5.tv/2HCymTZ](http://kng5.tv/2HCymTZ)



7:00 PM · 16 Mar 18

3 Retweets 7 Likes



Tweet your reply



# Immediate actions performed

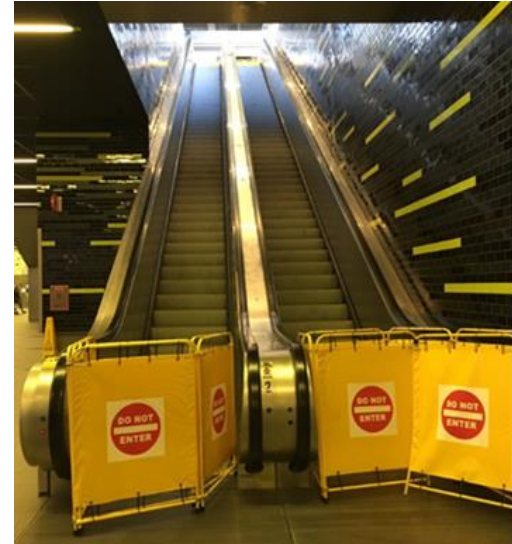
- Security station observation protocols changed
- SOC/LCC communication improvements
- Improved KONE performance under contract through KCM
- Customer communication improvements

These are in place today



# Can a stopped escalator be used as stairs?

- No Revised Code of Washington or Washington Administrative Code provisions
- American Society of Mechanical Engineers code directive: *“Stopped escalators shall not be used as a means of access or egress by non-authorized personnel . . .”*
- Labor & Industries recommendation: *“Escalator steps are not the correct height for normal walking and should not be used [as stairs].”*
- Manufacturer recommends against such use



# Can a stopped escalator be used as stairs?

- Sound Transit Safety personnel rate the risk of injury as “Occasional” and of “Moderate” severity, but only after performing further analysis of structural and loading implications AND only when the following mitigation measures are in place:
  - Use as stairs ONLY when both sets of escalators are down
  - Remove from service when being worked on by a technician
  - Unit is “locked” in place to prevent movement
  - Staff at top and bottom of escalator to:
    - Assist customers with directional flow
    - Direct customers with luggage, strollers, etc., to elevators
    - Assist customers with negotiation of the uneven rise at top and bottom

# Intermediate actions

- Evaluate usage of stopped escalators as stairs – April 20
- Implement procedure to use emergency exit stairs for egress/ingress – April 20
- Verify reversibility of escalators – May 1
- Improve reliability through completion of engineering study recommendations – August 1

# Consultant recommendations

## 2017 UWS escalator engineering study recommendations

- Replaced major components identified in findings
- Performed and monitored annual maintenance by KONE, KCM maintenance vendor
- ST working with KCM to drive KONE performance expectations
- Continue working with manufacturer to resolve recurring comb plate service failures
- Address remaining items including oilers and pit heaters

# Longer term actions

Potential longer term solutions under study:

- Cost/Benefit analysis of alternatives to consider anticipated operating costs
- Emergency Exit stairs as permanent stairs
- Replacing some escalators with stairs
- Adding stairs
- Replace escalators with heavier grade
- Feasibility and benefit-cost analysis for major changes

**This analysis will be completed by Q3 2018**

# Future designs

## Future Link stations

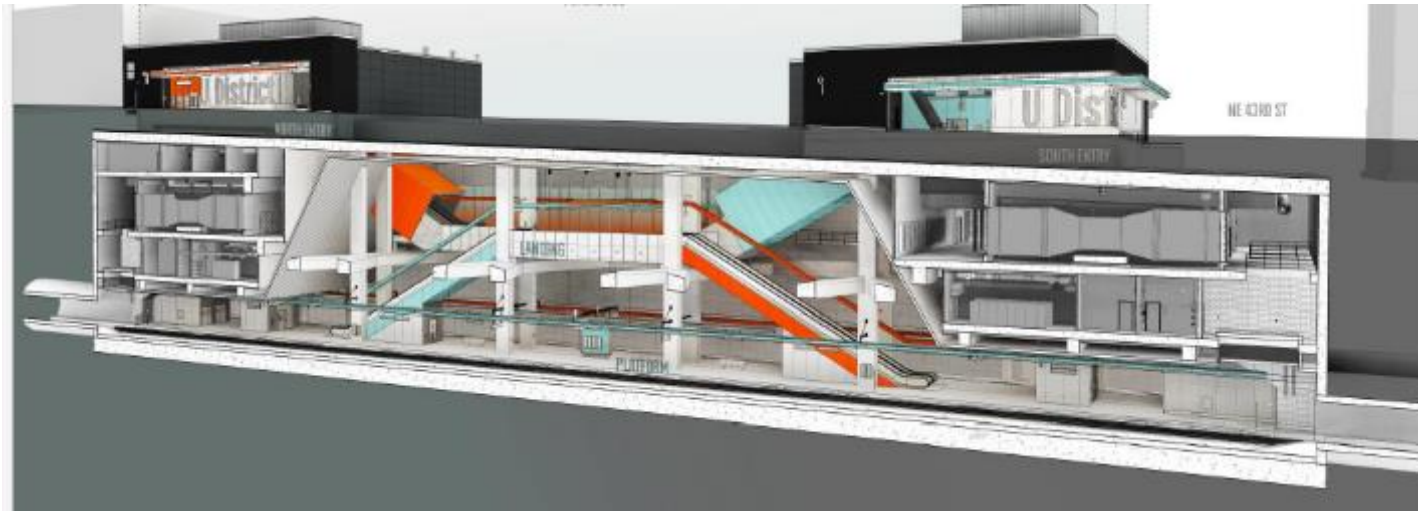
- New standard specifications for heavy duty escalators applied to Northgate, East Link and all future stations
- Maintenance provided by installer
- New standard to have public stairs where escalators are provided for future stations
- All station designs reviewed for public stairs at escalators
  - All future stations except one have public stairs near escalators
  - The exception is one level of U District Station



Existing Link stations without public stairs at escalators are UW and Capitol Hill

# U District Station

- From street level there are escalators and stairs going to mezzanine
- From mezzanine there are two pairs of escalators going to platform
- Heavy duty, reversible escalators specified; maintenance by installer
- Emergency exit stairs could be used if >2 escalators out of service
- Elevators go from ground level to platform





## Next steps

- Near-term: Review use of stopped escalator as stairs and prepare emergency stairs to be used for access
- By August: Continue to implement engineering study recommendations
- By August: Implement intermediate actions identified in this report
- By end Q3: Perform benefit-cost analysis for longer term solutions