



## Caltrain Level Boarding

### Discussion

LPMG  
September 26, 2013



### What is level boarding?

- Examples: BART and Muni
- Definition
  - Horizontal gap less 3"
  - Vertical gap less 5/8"





## Level Boarding Important to Caltrain

- Safety enhancements
- Operating efficiencies
- Passenger convenience
- ADA compliant

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## Caltrain Corridor

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## Stations / Platforms

- 33 stations (SF to Gilroy)
- Shared stations / platforms
- Caltrain and tenants
  - Altamont Corridor Express (ACE)
  - Capitol Corridor (CC)
  - Amtrak
  - Freight

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## Platform Height and Vehicle Threshold

Thresholds Existing Platform Height 8" at top of rail (ATOR)	
Caltrain	<ul style="list-style-type: none"><li>• Bi-level<ul style="list-style-type: none"><li>– 18" 1<sup>st</sup> step (25" @ floor)</li></ul></li><li>• Gallery<ul style="list-style-type: none"><li>– 18" 1<sup>st</sup> step (45" @ floor)</li></ul></li></ul>
Tenants	<ul style="list-style-type: none"><li>• ACE<ul style="list-style-type: none"><li>– 18" 1<sup>st</sup> step (25" @ floor)</li></ul></li><li>• CC<ul style="list-style-type: none"><li>– 18" @ floor</li></ul></li><li>• Amtrak<ul style="list-style-type: none"><li>– 18" @ floor</li></ul></li></ul>



Bi-Level



Gallery

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## Conflicting Regulations

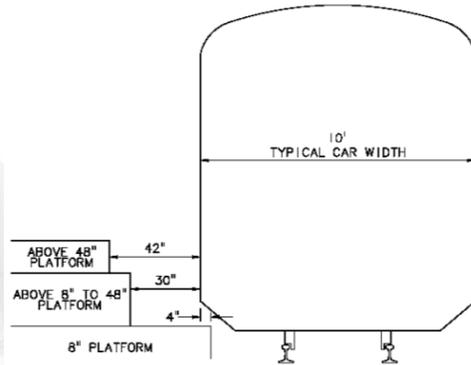
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## California Public Utilities Commission Regulation (General Order 26D)

- Tends to push platform and vehicle apart
- Protect freight and passenger operations
- Creates clearance envelope
- Govern train/platform interface

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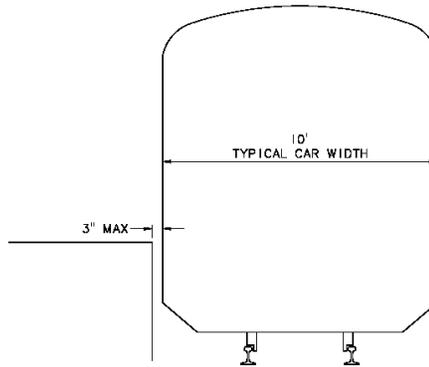
## California Public Utilities Commission (CPUC) Regulation (General Order 26D)



## Federal Americans with Disabilities Act (ADA)

- Tends to bring platform and vehicle together
- Provide level boarding where practicable
- Waivers when shared with freight
- Station improvements can trigger level boarding requirement

## ADA Regulation



## Regulation Compliant

- Mini highs
- Wayside and on-board lifts
- Hand-crank lifts (backup)



## Caltrain Electrified Service (2019)

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## Electrified Service Context

- Maximize capacity and support growing ridership
- Utilize existing stations and tracks
- Continue ADA and CPUC compliance
- Service
  - Electric service from SF to SJ
  - Continued diesel for Gilroy service
- Vehicles
  - Convert from diesel to EMU fleet
  - Utilize remaining life of diesel fleet

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## Electrified Service Context, cont.

- Continued tenant access
  - ACE, CC, Amtrak
  - Freight
- Support future HSR service
- Consider other planned services
  - Coast Daylight
  - Dumbarton

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## EMU Design Considerations

- Service proven
- Existing design / safety standard approved
- Compatible with existing fleet
- Maximize capacity
- Maintain/Improve current customer experience
- Future station platform implications
  - Caltrain level boarding
  - Shared platforms with tenants

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## Service Proven EMU Options

- Single Level EMU
  - Floor threshold 46" to 51" ATOR
  - Capacity 80 – 100 passengers per car (less than today)
- Multi-Level EMU
  - Floor threshold ~25" ATOR
  - Capacity 110 – 130 passengers per car (similar to today's)

## Platform Height and Vehicle Threshold

Thresholds Existing Platform Height 8" at top of rail (ATOR)	
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## Future Caltrain Level Boarding

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## Caltrain Level Boarding Approach

- Identify cost / funding
- 25" platforms at 27 Caltrain stations (SF to SJ)
- SJ to Gilroy TBD
- Dedicated tenant platforms
- Phasing consideration
- CPUC waiver for regulation compliance

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## Platform Height and Vehicle Threshold

<i>Caltrain Level Boarding</i> <i>SF to SJ</i> <i>Platform height at top of rail (ATOR) 25"</i>	<i>Tenants Dedicated Platform</i> <i>Diridon, Santa Clara</i> <i>Platform height at top of rail (ATOR) 18"</i>	<i>HSR Dedicated Platform</i> <i>Millbrae, TTC</i> <i>Platform height at top of rail (ATOR) -50"</i>
<ul style="list-style-type: none"> <li>• Bi-level                             <ul style="list-style-type: none"> <li>- (Remove 1<sup>st</sup> step)</li> <li>- 25" @ floor</li> </ul> </li> <li>• Multi-level EMU                             <ul style="list-style-type: none"> <li>- (Remove 1<sup>st</sup> step)</li> <li>- 25" @ floor</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• ACE                             <ul style="list-style-type: none"> <li>- 18" 1<sup>st</sup> step (25" @ floor)</li> </ul> </li> <li>• CC                             <ul style="list-style-type: none"> <li>- 18" @ floor</li> </ul> </li> <li>• Amtrak                             <ul style="list-style-type: none"> <li>- 18" @ floor</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>HSR</b> <ul style="list-style-type: none"> <li>- <b>-50" @ floor</b></li> </ul> </li> </ul>

## Systems with Dedicated Platforms



Essen Central Station, Germany



L.A. Union Station, USA



Denver Union Station, USA (under construction)



## Next Steps

- Public Dialogue
- Agency Stakeholder Dialogue
- Inform Industry Discussions
- Inform Vehicle Procurement

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Discussion

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