



Draft Preliminary Health Risk Assessment

In Alignment with the Maritime Clean Air Strategy (MCAS)

December 14, 2021

Agenda Item #17
File #2021-0296

Health Risk Assessment Procedural Steps

STEP 1 Emissions Inventory



- Identify emissions sources by category
- Estimate tons of Diesel Particulate Matter (DPM) by category per MCAS 2019 activity

STEP 2 Dispersion Modeling



- Computer simulation (AERMOD) used to estimate the concentration of DPM at specific locations
- Locations are called receptors (homes, schools, parks)

STEP 3 Risk Calculations

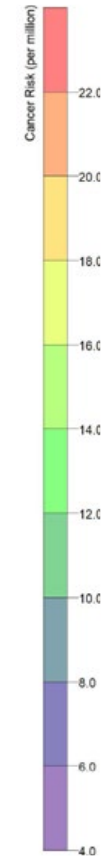
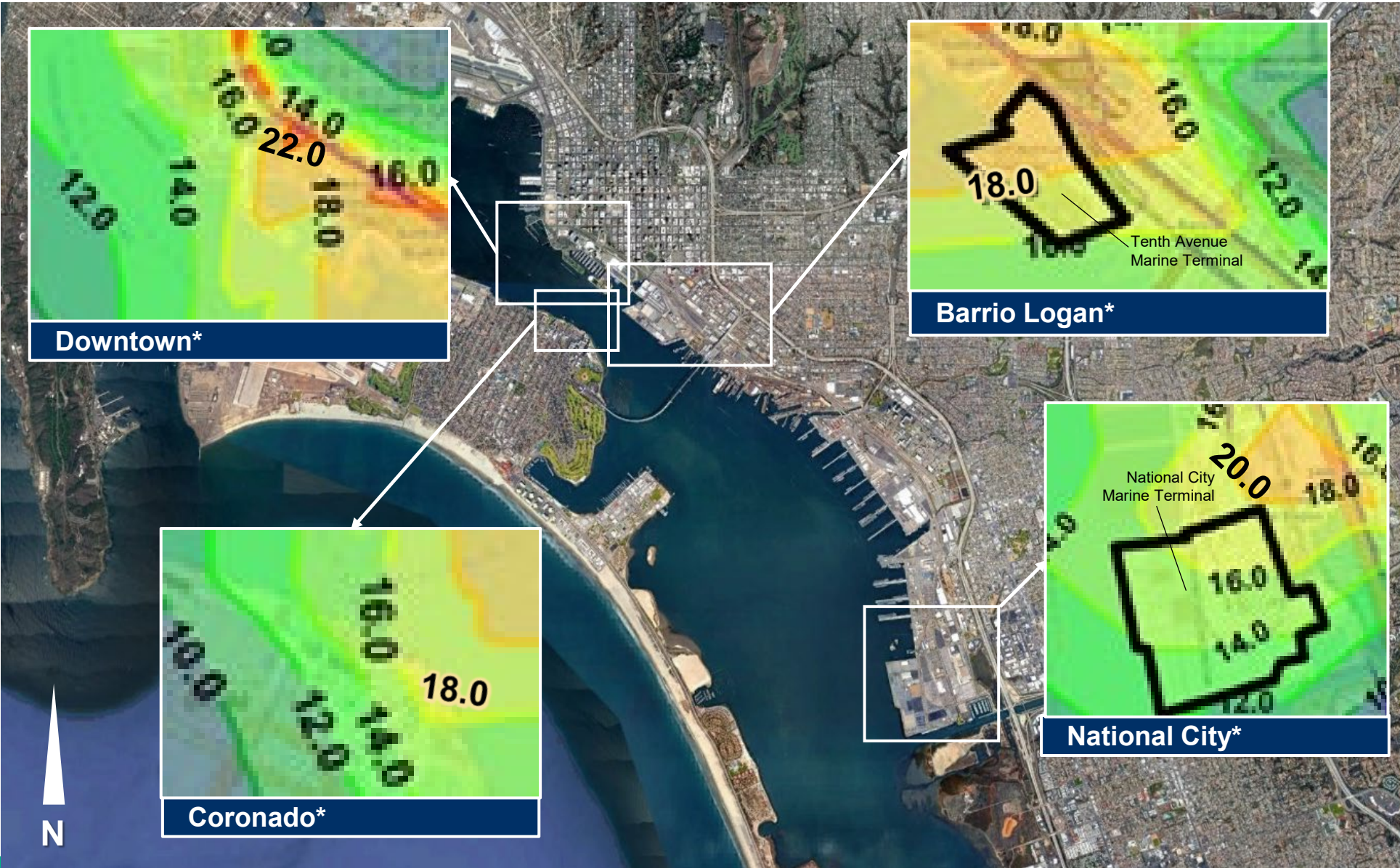


- Estimate DPM cancer risk
- Cancer risk values are conservative, health-protective and represented as the maximum risk at nearest receptor
- Cancer risk is a probability, not a guarantee, and includes uncertainty

Emission Source Locations



Maximum Residential Cancer Risk – Baseline 2019



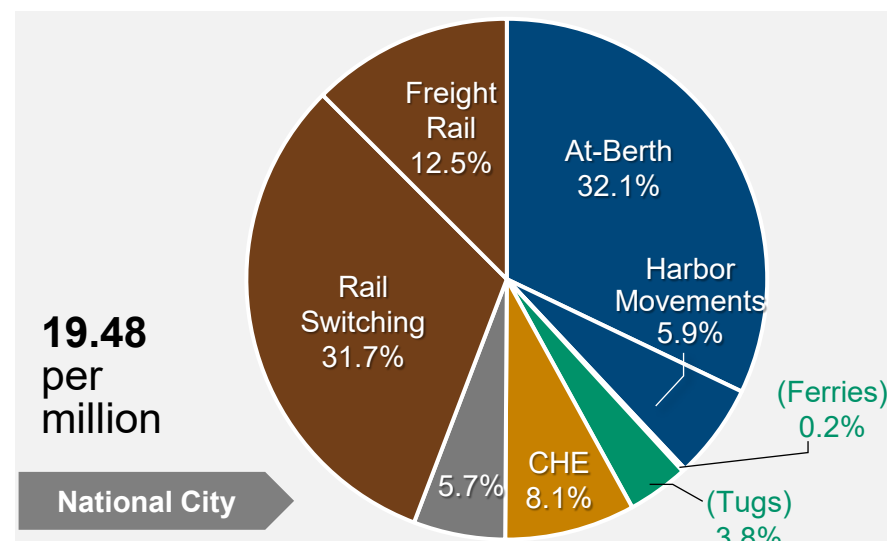
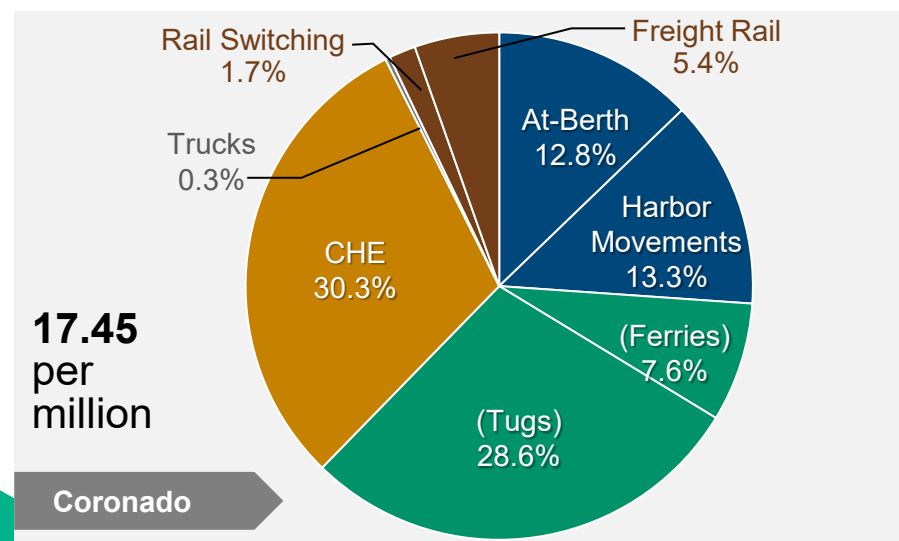
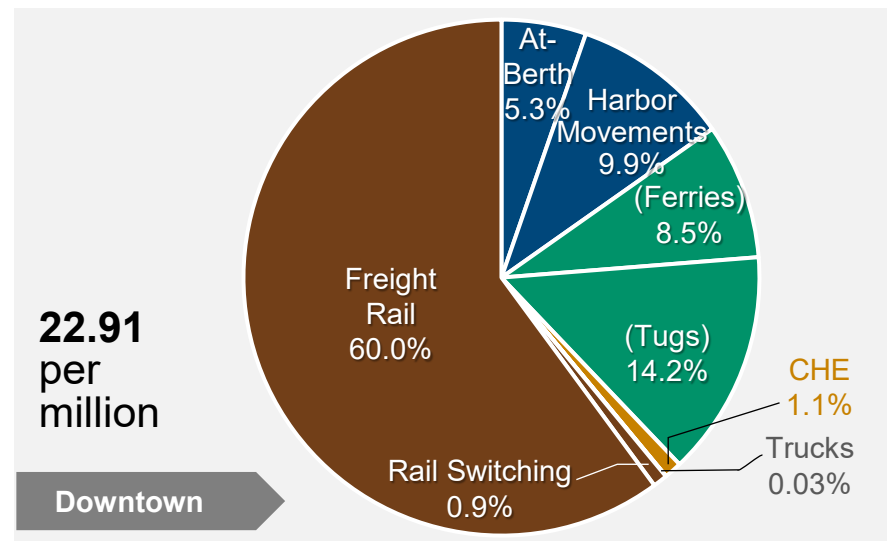
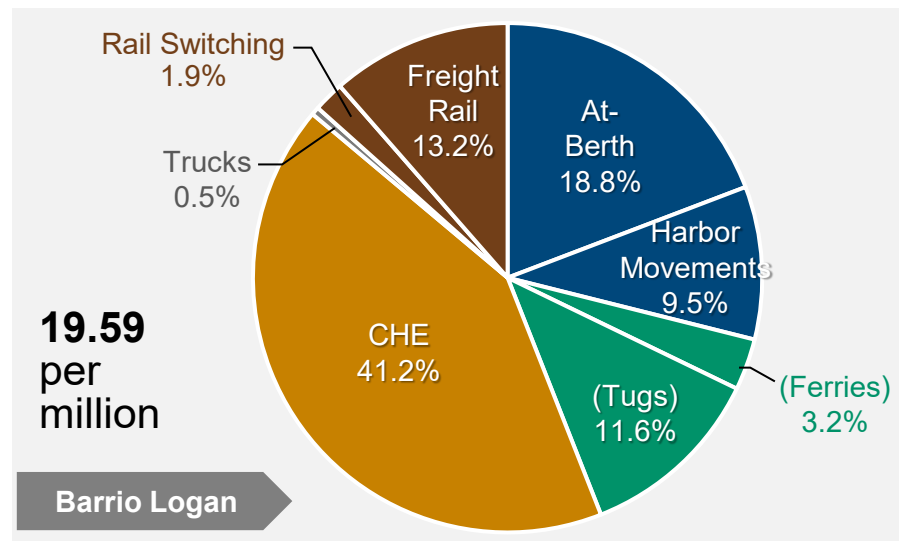
Cancer Risk per Million

*These represent specific locations for higher levels of risk within portions of each community, as identified in the HRA Summary Report.

Results are preliminary
Preliminary Results were revised on 12/13/21

Preliminary Results - Baseline

Source Contribution by Community



Oceangoing
Vessels



Commercial
Harbor Craft



Cargo Handling
Equipment



Heavy-Duty
Trucks



Rail

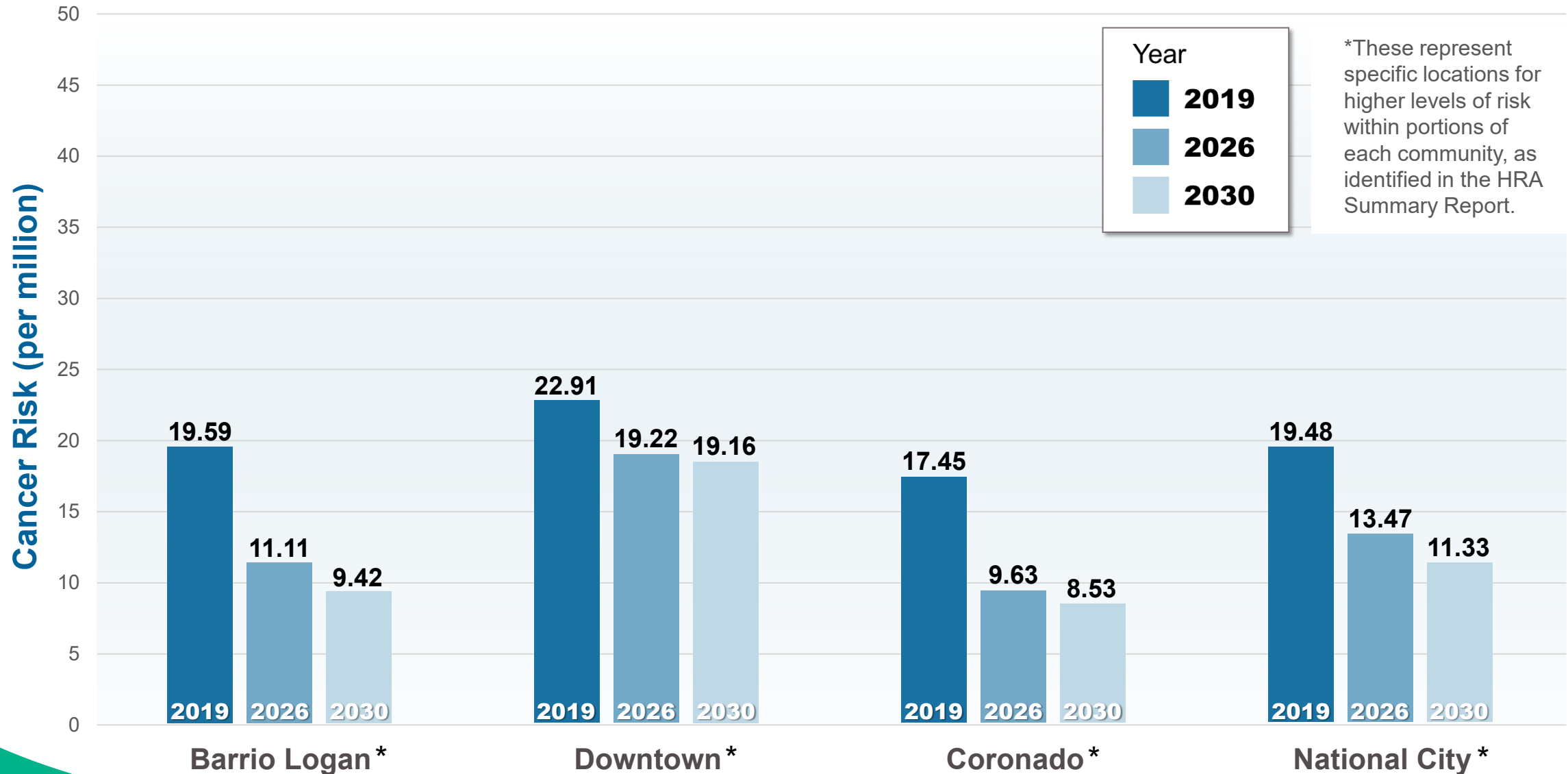
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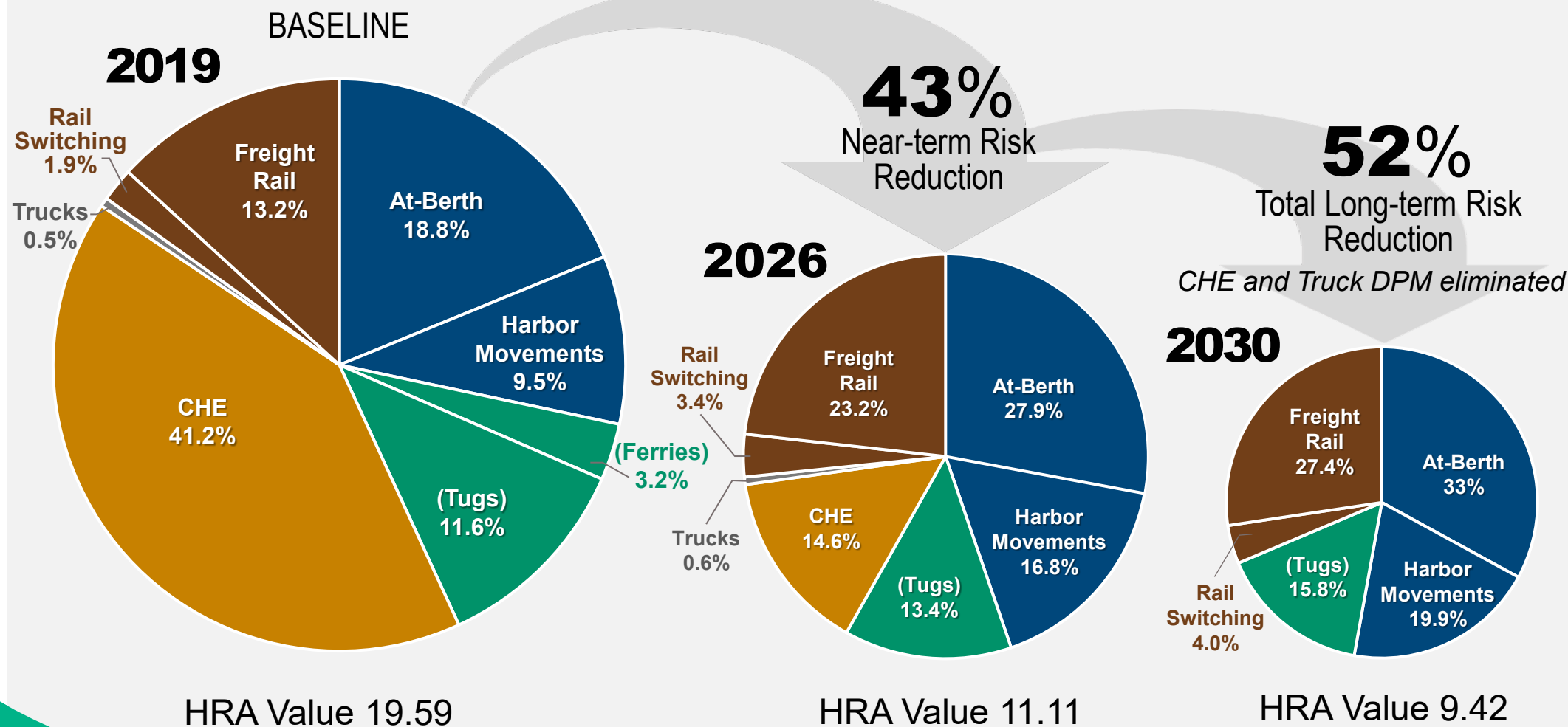
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Health Risk Assessment Forecasted MCAS Reductions



Key Sources After Forecasted MCAS Reductions

Barrio Logan



Oceangoing Vessels

Commercial Harbor Craft

Cargo Handling Equipment

Heavy-Duty Trucks

Rail

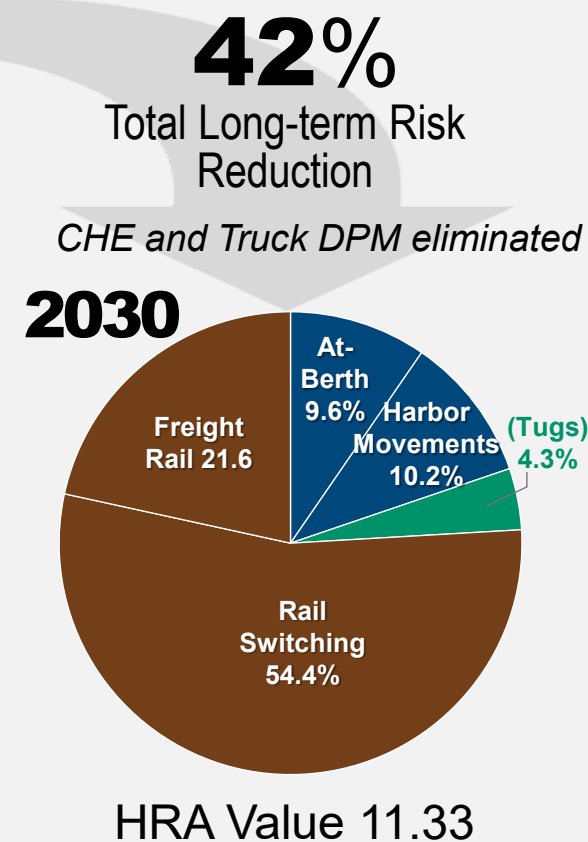
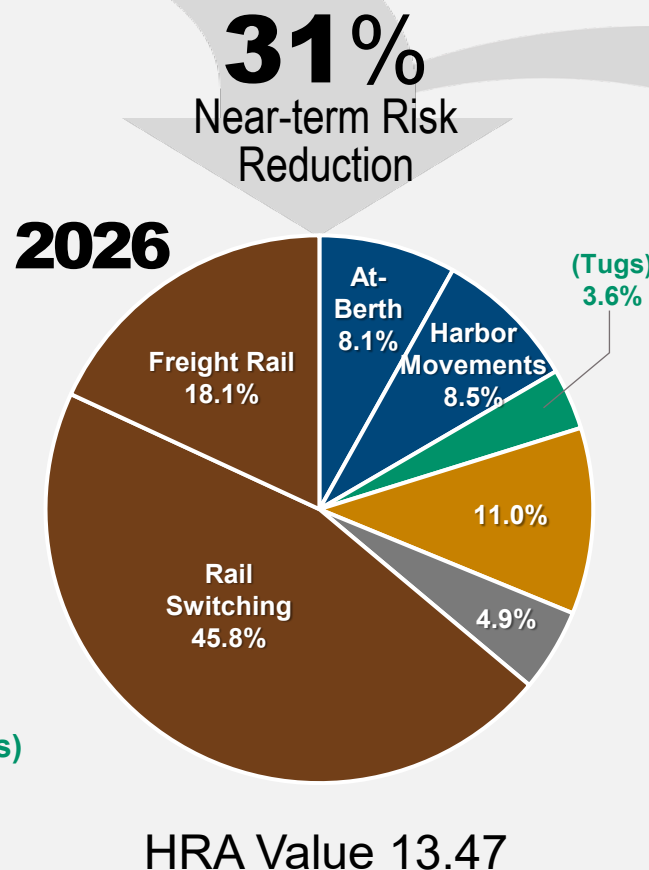
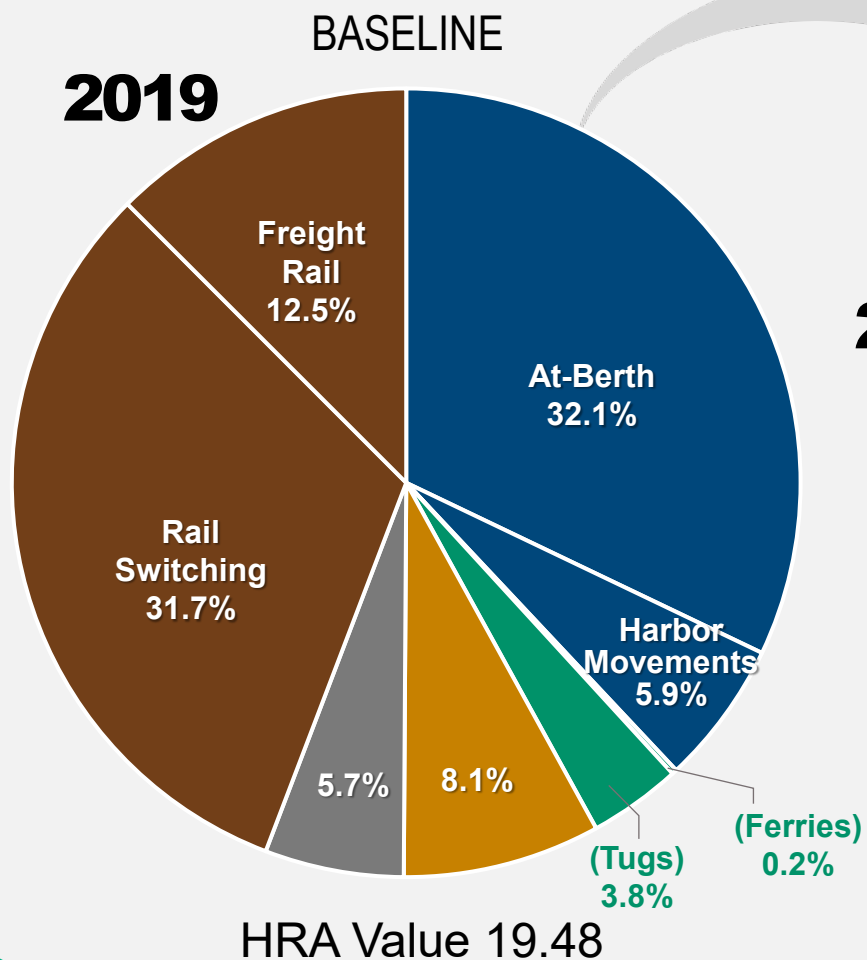
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Key Sources After Forecasted MCAS Reductions

National City



Oceangoing Vessels

Commercial Harbor Craft

Cargo Handling Equipment

Heavy-Duty Trucks

Rail

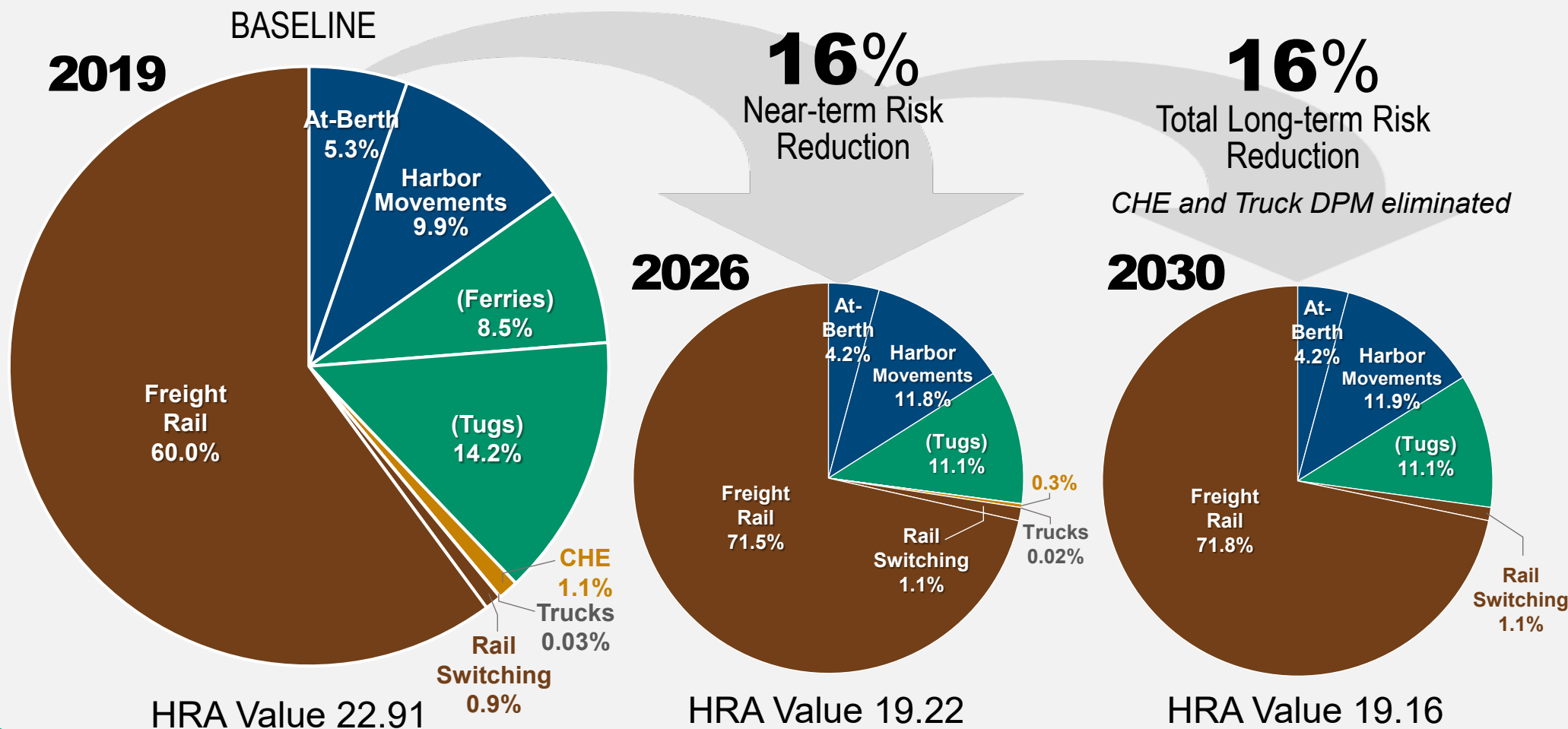
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Key Sources After Forecasted MCAS Reductions

Downtown



Oceangoing Vessels

Commercial Harbor Craft

Cargo Handling Equipment

Heavy-Duty Trucks

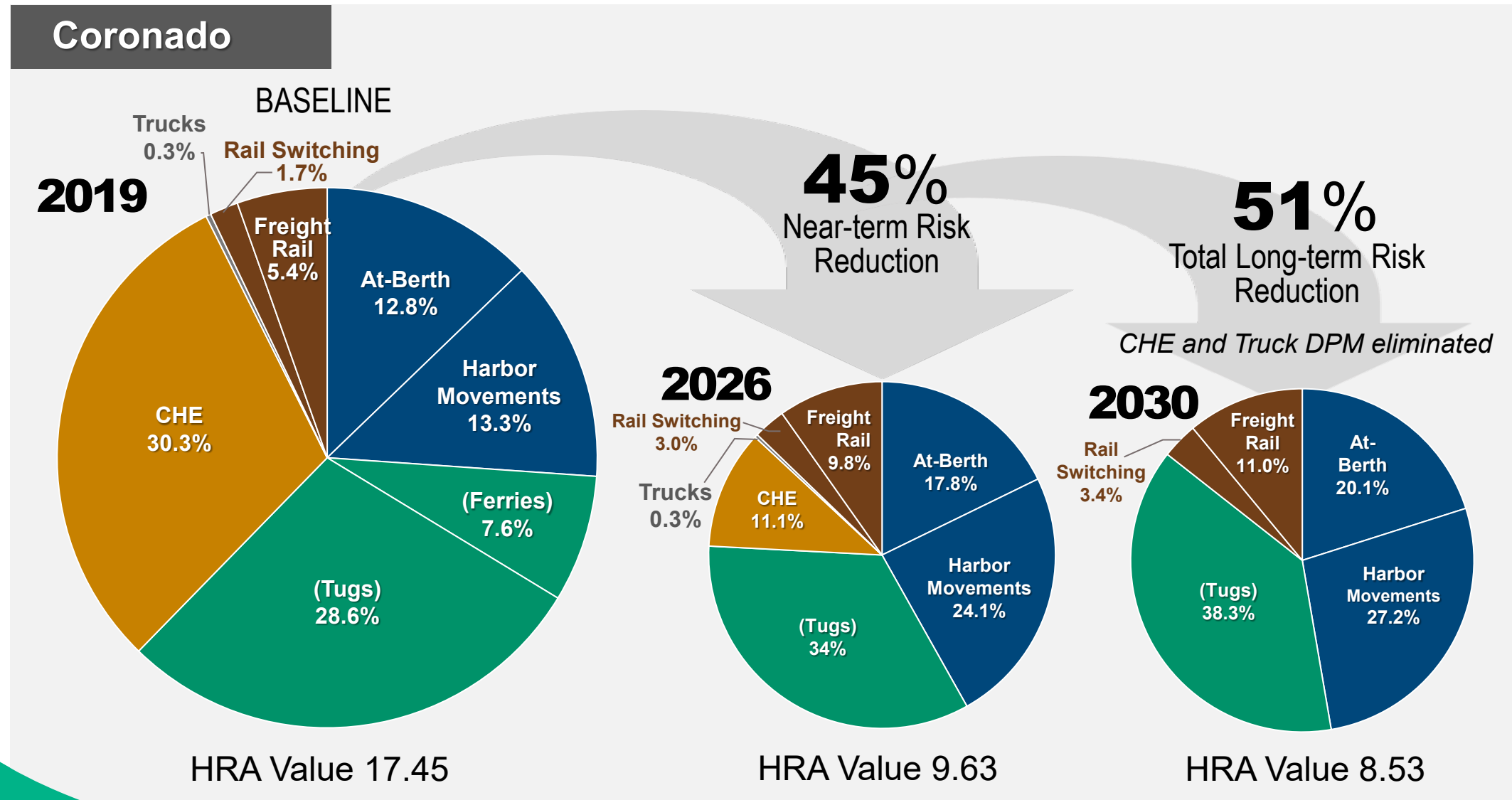
Rail

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Key Sources After Forecasted MCAS Reductions



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Commercial Harbor Craft

Cargo Handling Equipment

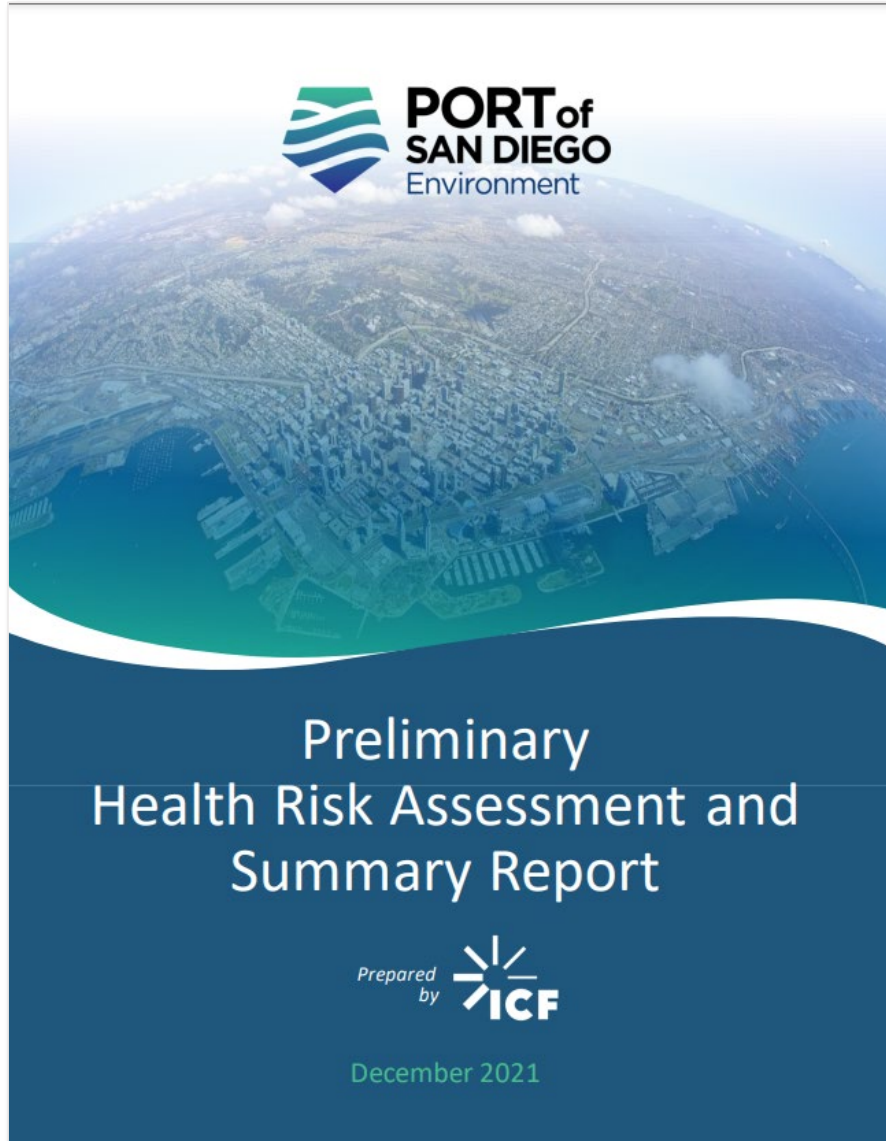
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Next Steps

- **Provide fact sheet on webpage**
- **Conduct additional engagement, such as:**
 - AB617 Portside Community Steering Committee
 - Agency planning groups
 - Resident and stakeholder meeting (virtual)
- **Refine and Finalize Port's Health Risk Assessment (Anticipated February 2022)**
- **Provide input to SDAPCD / CARB Staff on the AB 617 Portside Community's Cumulative Health Risk Assessment (Anticipated Winter/Spring 2022)**



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