

I-70 Bakerville to Eisenhower-Johnson Memorial Tunnel (EJMT) Westbound Climbing Lane Technical Team (TT) Meeting #5

Meeting Summary

April 7, 2023, 1:00 PM - 3:00 PM

In Person and Virtual Meeting

1. Welcome, Meeting Purpose, and Agenda Review

Wendy Wallach/Peak Consulting Group welcomed the group, and had the participants do self-introductions.

- Ben Davis, CDOT
- Francesca Tordonato, CDOT
- Maria Rocken, CDOT
- Christiana Lacombe, CDOT
- Shannon Mero, CDOT
- Andrew Malewski, CDOT
- Carrie DeJiacomo, Ulteig
- Angy Casamento, Ulteig
- Lindsey Wickman, Ulteig
- Kory Kleinknecht, Ulteig
- Brian Dobling, FHWA
- Julie Smith, EPA
- Kristin Salamack, US Fish and Wildlife Service
- Margaret Bowes, I-70 Coalition

- Tracy Sakaguchi, CMCA
- Rick Keuroglian, Town of Georgetown
- Amy Saxton, Clear Creek County
- Nicole Malandri, US Forest Service
- Kerry Petrie, Clear Creek Watershed Association
- Wendy Wallach, Peak Consulting Group
- Loretta LaRiviere, Peak Consulting Group
- Wendy Wallach, Peak Consulting Group

Wendy said the main purpose of today's meeting is to evaluate chain station design options against the CSS criteria to recommend concepts for further design development. We are recording the meeting and the presentation will be included with the meeting notes.

2. Project Update

Carrie DeJiacomo (Ulteig) said the design team met with Tracy Sakaguchi, Colorado Motor Carriers Association, to talk through some of the chain station options that we will be discussing today. Tracy provided insight from the trucking community perspective and those have been considered in options presented today.

Wendy updated the Tech Team on the progress of the public engagement. Currently, the team is working with CDOT to develop materials for a virtual outreach. A virtual outreach was determined to be the best approach as there are not a significant number of residents along



the corridor and a virtual event could increase accessibility/participation for those who travel through the project area. Postcards will be distributed to those in the project area, and addition flyers will be posted at businesses and ski areas announcing the event. We encourage the PLT and TT to spread the word out about the public involvement opportunities. The public engagement resources will include a high-level briefing book and an interactive comment form with an interactive map that will allow the public to leave comments and questions. We are still refining the 508 compliance and accessibility of the interactive form and map prior to posting to the project website. Once the materials have been finalized, the resources will be sent to the PLT for review. The team anticipates having the material published the first week in May.

Question: What is 508 compliance?

Answer: 508 is a federal requirement that requires all members of the public be provided access to information. This includes supporting formats for the visually impaired that can be read though an e-reader. In addition, photos must include text with descriptions. The document text and graphic colors must also meet certain requirements.

3. Decision Schedule

Wendy reviewed the different elements of the Decision Schedule needed for the NEPA document. The Beginning and Ending Transition, widening to the north, and the US 6 Interchange selection recommendations have been made. Four wildlife crossings were proposed, and two preliminary locations have been identified but have not been finalized.

The remaining decisions are with respect to the chain station locations and water quality treatment options. Chain stations are being discussed today with the intent of having a consensus to move forward with, and water quality treatment options are still under development. The team is aiming to have a conceptual design done by May so that we can start working on the NEPA impact analysis and mitigation measures. The team will meet with the SWEEP and ALIVE ITFs during this process.

4. Chain Station Options

Lindsey Wickman said the design team has developed four westbound chain station options, but the options can be evaluated as individual options and more than one option can be selected. For all the options, the fiber optic line along I-70 will be impacted throughout the project due to the widening of the climbing lane and chain stations to the north. The existing fiber optic line runs adjacent to the north pavement edge of I-70. The chain station options also consider maintaining the grassed median but shifting to the median could be looked at if there are concerns with minimizing rock cut heights. Drilling of the rock will occur this summer to understand the stability of the rock and give us a good idea on the heights of the retaining walls that can be accomplished.

Chain Station Option 1D: New Location (East of Bakerville, ~M.P. 221.5)

Option 1D is a new proposed chain station location east of the Bakerville off-ramp. The option would add 14 new 100-foot stalls.



The pros of this option include a single entry and exit point with a 30-foot separation from I-70 traffic. Trucks would pull off into the chain station, chain up, and then access the Bakerville off ramp traveling to the on-ramp as an acceleration lane to return to I-70 in the climbing lane. A potential conflict point occurs as trucks exit the chain station and passenger vehicles exit I-70 at Bakerville; however traffic counts indicate there is minimal traffic using this interchange. Refinement of this design option could include a stop sign to minimize impacts of the conflict point.

This option would include significant rock cuts with a retaining wall approximately 50 feet in height. Other impacts to consider are the potential impacts to ditch wetlands.

Question: What is a ditch wetland?

Answer: Ditch wetlands are roadside drainage wetlands which are generally low quality and lower functioning compared to wetlands that are in the floodplain or the creek which are likely to be higher functioning.

Chain Station Option 2D: At Existing Location (West of Bakerville, ~M.P. 220.7)

Option 2D has a similar design footprint to option 1D but it is at the existing chain station location west of Bakerville. The proposed design has a single point entry and exit as well as a 30-foot separation from I-70 traffic. Option 2D has a standard acceleration lane to allow trucks to accelerate back up to speed and enter the climbing lane. The existing stalls are approximately 80-90 feet in length, whereas the proposed stall length is 100 feet. CMCA supports this increased length, and this length is being adapted as the chain station standard being developed by CDOT Region 3. Lengthening the stalls would result in the loss of one stall at his location, from 25 existing stalls to 24 proposed stalls.

Other impacts to consider are the impacts to the ditch wetlands and the required relocations of fiber optic and electrical utilities that run along the shoulder.

Option 3D: Increased Capacity at Existing Location (West of Bakerville, ~M.P. 220.7)

Option 3D is at the same location as Option 2D, but with increased capacity from the design of two parallel parking lanes separated by a through lane. Capacity would be increased from the existing 25 approximately 80-90-foot stalls to 46 100-foot stalls. Traffic operations would be improved with designated entry and exit points and improved safety with an 18-foot separation from I-70 traffic. In addition, the grass median would be preserved.

With the increased capacity, there would be larger impacts to rock cuts and an approximate 40-foot-high retaining wall would be required. Similar to Option 2D, the fiber optic and electrical utilities would require relocation and impacts to ditch wetlands should be considered. With the increased footprint of the chain station, lighting would require light post on both sides of the chain station to provide sufficient lighting for drivers.

Option 4D: At Existing Location (Near Watrous Gulch, ~M.P. 219.4)

Option 4D would improve the existing chain station near Watrous Gulch. Similarly, to previous options, Option 4D has a single entry and exit point with an 18-foot separation from I-70



traffic which complies with the Chain Station CSS Report requirements. The grass median would be preserved.

Compared to existing, the capacity of the chain station would decrease due to the increase in stall length. The existing chain station has 20 stalls at approximately 80-90 feet in length whereas proposed would be 15 stalls at 100-feet. Other impacts to consider include utility relocations and rock cuts. The rock cuts would result in a retaining wall approximately 15-feet high.

Following the review of the chain station options, Tracy emphasized the need for increased chain station parking in this area. She thanked the design team for reviewing the options with her in advance as she was able to review them with safety managers who have driven this corridor and hauled hazardous materials over US 6. Overall, the consensus was Option 3D is preferred due to the layout and increased capacity. Tracy explained there was some concern regarding Option 4D if guardrail were to be installed prohibiting the movement of trucks. Carrie clarified the design did not include the installation of guardrail in Option 4D. Tracy said truckers like the concept of guardrail because it is an additional safety barrier for them, but they are concerned about not being able to exit the chain station quickly. Carrie said we would need guardrail in Option 3D because we will have light poles on both sides of the chain station and it would provide a positive barrier to those chaining up closer to the climbing lane.

US 6 Chain Station Option

A fifth chain station option was presented specifically for hazardous material trucks. At the time of design development of this option, the number of hazardous material trucks exiting at US 6 per hour to go over Loveland Pass was unknown and additional spaces may be needed. Hazmat trucks need to chain up on snow for safety reasons and are not permitted through the EJMT, thus must exit at US 6 and take Loveland Pass. With the proposed realignment of the US 6 interchange, there is the potential for chain station stalls near the existing interchange location. The team has designed four diagonal stalls as a starting point for the discussion. This option could be informal gravel, but spaces will need to be defined clearly so one truck doesn't take up all four spaces. A slight concern exists for drivers exiting at US 6 on the eastbound I-70 off ramp and entering the chain station going the wrong way, but this could be mitigated through design refinement.

Tracy supported this option as trucks currently chain up on the shoulder of the US 6 westbound off ramp which is not a safe location. Ulteig will provide Tracy a layout of this option to gain additional feedback from hazmat drivers. Additional spaces could be added, but a retaining wall between I-70 and the chain station may be necessary. The exact number of hazmat vehicles would be helpful to further develop the option.

Ben Davis (CDOT) said there have been hazmat studies completed for Loveland Pass which may help inform how many hazmat vehicles exit per hour at this location.



5. CSS Evaluation Matrix

Following the discussion of the design options, the CSS Evaluation Matrix was presented to evaluate the options with the intent of obtaining agreement on the design direction. It was noted that the US 6 chain station option has not yet been evaluated in the matrix as it was an outcome from the design team meeting with CMCA. Similar to the climbing lane options, which we've discussed previously, the team is comparing the options against existing conditions and have rated them as fair, better, or best.

Safety

- Accommodate emergency access and response? All options rated as better, as the operational and safety improvements to the chain station allow emergency vehicles additional access and parking and help to improve the flow of traffic in the approach to the chain stations.
- Address safety of the traveling public and community? Option 1D, 2D and 4D are rated as better as similar improvements are presented across the three options including single point entry/exit and separation from I-70 traffic. Option 3D is rated as best because of the significant increase to capacity and the impacts to reduce queues that currently exist on I-70.
- Address truck safety during all seasons? Option 1D is rated as fair due to the potential conflict point for trucks exiting the chain station and passenger vehicles exiting I-70 at Bakerville. Option 2D and 4D are rated as better because of the improved separation between I-70 and chain station parking. Option 3D is rated best because of the highest increase in the number of stalls.
- Consider vertical grades to the trucking community and traveling public? Not a differentiator.
- Reduce potential for hazardous materials, incidents and/or spills? All are rated as better due to the improvements in operations for trucks entering and exiting the chain stations, therefore minimizing the potential for hazardous material accidents.
- Improve and/or maintain traffic operations at Loveland interchange? Not applicable, as chain stations do not impact the Loveland interchange.

Accessibility and Mobility

• Reduce conflicts with slow moving vehicles? Option 1D is rated as fair due to the potential conflict point for trucks exiting the chain station and passenger vehicles exiting I-70 at Bakerville. Options 2D, 3D & 4D are rated better because of the designated entry/exit points allowing slow moving trucks to access the chain stations more efficiently.

Tracy expressed concerns about Option 1D with vehicles exiting I-70 at Bakerville. Trucks leaving the chain station could be controlled with a stop sign, but the trucks will be going up a grade and will be much slower than the exiting traffic from I-70.



Brian Dobling (FHWA) said he has the same concerns about Option 1D.

- Support ease of freight movement? Option 1D, 2D and 4D are rated as better due to improved operations and safety. Option 3D is rated as best because of the increased capacity from 25 stalls to 46 stalls.
- Improves travel time reliability? Option 1D, 2D and 4D are rated as better. Option 3D is rated as best due to the increase in stalls that will minimize the queue for trucks waiting on chain station availability.

Lindsey noted there was a lengthy discussion on the reliability measurement as to whether this applied to I-70 traffic or chain stations queues. Having safer chain stations will also allow the truckers to chain up faster and reduce the queues that develop on I-70.

- Improve local accessibility at Loveland Interchange? All are rated as not applicable.
- Accommodate truck parking? All are rated as not applicable. Lindsey noted that chain stations are not designated for overnight parking.

Tracy said CMCA does not encourage the use of chain stations for truck parking for long-term breaks. Chain stations may be used for short 30-minute breaks, brake cool down, or emergency truck parking if I-70 is shut down. There is a mandatory 30-minute break for the first 8 hours of coming on duty and truckers are only permitted 11 hours of drive time in a 14-hour driving window. Once they have reached the 11 hours' drive time or a 14-hour day, they must stop driving and have a 10-hour rest period. These cannot be broken up into increments. There have been some circumstances of time mismanagement and law enforcement are sensitive about not waking up a driver if they are parked in the chain stations, but long-term parking use is not encouraged.

- Reduce impact from geotechnical hazards? All were rated as TBD depending on retaining wall heights and stability of rock cuts which are currently being investigated by the team. Although impacts have not been determined, Option 3D will require more disruption due to larger cuts and increased rock fall mitigation over time. It was recommended and agreed the matrix be updated for the different options.
- Accommodate AGS (Advanced Guideway System? All are rated not a differentiator at this time.

Implementability

- Create infrastructure investments that are reasonable to construct and provide the best value for their life cycle, function, and purpose? All options are rated TBD at this time until rock exploration is completed.
- Minimize construction impacts to the community and traveling public? All are rated as fair. Rock blasting and haul will have significant impacts to I-70 traffic during construction.

Community



- Protect recreation resources? All are rated as not a differentiator as chain stations do not impact recreational resources.
- Support/enhance quality recreation access and facilities by meeting local and regional standards and objectives? All are rated as not a differentiator as chain stations do not impact recreational access.
- Improve wayfinding? All are rated as not a differentiator.

Environment

- Protect Clear Creek as a fishery resource and its water quality in addition to its tributaries? The design team rated it as not applicable due to no direct impacts to water quality, but discussions were held to rate them as fair due to the increase in impervious surfaces and the impacts additional pavement treatment has on water quality. The design team will update the matrix accordingly. Wendy, Amy, and Nicole agreed with this change.
- Protect/enhance wetlands and riparian areas? All are rated as fair, but the impacts are different across the options due to footprint, and this should be noted in the matrix.
- Protect/enhance wildlife habitat and movement? All are rated as fair, because retaining walls may have impact to wildlife movement, but the wildlife fence associated with the wildlife crossings already intentionally prohibits movement in the areas of chain stations.
- Protect/enhance forest health? All are rated as fair.
- Minimize impacts to viewsheds? All are rated as fair.
- Provide opportunities to reduce Greenhouse Gas (GHG) emissions during construction and during operations? All are rated as not applicable as vehicle miles traveled is not reduced.
- Protect air quality during construction and during operations? Options 1D, 2D and 4D are rated as fair. Option 3D is rated as best because it reduces queues at the chain station due to significant increase in capacity.

Tracy said the State of Colorado has a no idle regulation that prohibits idling for more than five minutes for trucks. However, the regulation does allow for idling during ambient temperatures due to diesel engines tending to gel in cold temperatures. If the diesel engine gels, trucks require service to reheat the fuel and restart the trucks.

The group suggested adding VMS signage with information on the number of stalls available at each chain station, but for consistency it would have to conform with other VMS signage for chain stations across the corridor or the state. There are no specific guidelines for VMS signage for the I-70 Mountain Corridor currently. Region 3 is working on a plan now and the design team will look into their plan and how it could be implemented for this project.



There was also an agreement from Tech Team participants that chain station information should be added to the CoTrip app. Truckers use that app to access current information on road conditions and chain station stall availability would be beneficial.

• Minimize noise impacts? All are rated as fair.

Engineering Criteria and Aesthetics

- Meets I-70 Aesthetic Guidance? All are rated as fair.
- Meets the I-70 Design Criteria and minimize the number of exceptions needed? All are rated as fair as the grass median is maintained, but all options introduce retaining walls.

Sustainability

- Meets the needs of the present without comprising the future? Options 1D and 3D are rated as better because of the additional stalls that potentially support the future increase of trucks. Options 2D and 4D are rated as fair.
- Includes resiliency items to address flooding, wildfires and geological events? All are rated as fair. Items that were considered in this evaluation included increased impervious surfaces, disturbances to rock faces, and potential changes to the forest health.

Historic Context

• Protect historic and archaeological resources? All are rated not applicable because there are no historic sites near the chain station options.

Decision Making

- Adhere to previous plans, studies, and agreements? Options 1D, 2D and 4D are rated as better. Option 3D is rated as best because of increased capacity provided by the double parallel stalls. All options would investigate and include ITS improvements.
- Provide partnering opportunities? Options 1D, 2D and 4D are rated as better. 3D is rated as best because it has the most support of the CMCA.
- Follow the CSS decision making process? All are rated as not a differentiator because we are following the CSS process no matter which options are chosen.

Chain Station Option Recommendations

The Technical Team preferred Option 3D due to the increase in capacity. They also recommended Option 4D, but with an expressed interest in seeing the option as a two parallel stall layout similar to Option 3D. Kory Kleinknecht (Ulteig) said this can be investigated, but the impacts may require widening to the median or significant increase to wall heights to mitigate rock fall potential. The design team will investigate this option and report layout and findings within the meeting minutes.



6. Reasonably Foreseeable Projects

Wendy said for the NEPA cumulative impacts that are defined in the project NEPA document, the team would like to know if there are any upcoming projects in the corridor that are:

- Project applications, entitlements, and/or construction that are pending with a government agency,
- Projects included in an agency's budget or capital improvement program,
- Project with a foreseeable future phase as part of an existing project, or
- Projects that likely would occur within the 2050 planning horizon.

Wendy said there is already a list of projects for Floyd Hill and that can be used as a starting point. She will follow up with Clear Creek County, US Forest Service, and Loveland Ski area to talk about upcoming approved and funded projects. It would also be helpful to include any private projects the Technical Team is aware of such as Xcel or developers.

CDOT will compile a list of their known projects to send to Wendy.

7. Additional Discussion

Carrie said the design is slowing down until sometime in 2024 when we get through the NEPA process. NEPA and design are no longer being run concurrently.

Ben said CDOT recently went through a draft project delivery selection process to determine the feasibility of moving design forward at the rapid pace that we initially had identified for this project. It was determined that it didn't really make sense to move forward at the current pace with unknown funding sources. CDOT has considered risks to the project versus the schedule, with a potential unknown construction funding source. He said he referred to the word "potential" because identified funding in Years 27+ of CDOT's 10-year plan is not solidified. As a result, the project is slowing down to better align with timing of construction, and allow us to go after additional funding opportunities.

Ben said he and Francesca have been discussing potential funding opportunities for Wildlife Crossings. Other funding opportunities may include Bridge Enterprise funding for the structure at MP 216 (US 6 interchange) which recently underwent an emergency repair and for the structures at Herman Gulch. He said he wants to make sure that CDOT is being clear and transparent as to why the project is slowing down and taking a different approach. The team will still be completing NEPA and doing the analysis of the impacts.

Francesca said Kristin Salamack can provide information about a statewide lynx in-lie fee funding source. It is believed \$250,000 is available and depending on the timing of the advancement of design this could be a potential funding source for design of the wildlife crossings (if approved by the in-lieu fee committee). There is also a new Federal Wildlife Crossing pilot program, that will allocate 70 million dollars annually for wildlife mitigation.



The notice for funding opportunity was just released this week and opportunities for funding next year is a possibility. This design project may be competitive for securing funding as extra points are awarded for mitigation efforts for threatened and endangered species which includes lynx.

Wendy said the team still has water quality to resolve on the decision matrix for NEPA, but some field surveys are still required once snow melts. Progress has been made on the Aquatic Delineation report. Additional work is outstanding from HDR to complete the water quality design treatment. The treatment was discussed during SWEEP in which significant concern was expressed on the use of deicers and mitigation strategies.

The team discussed concentrating the runoff, and then attenuating it in some sort of structure. Josh Giovannetti from CDOT recommended the team consider this during design. Unfortunately, from the research that has been done on mitigation, there is no definitive solution.

Francesca said a deicing wetland research project that CDOT submitted to CSU has been funded. It will look specifically at the impact of deicers at high elevations wetlands statewide and strategies that could be employed for mitigation. This research will also include an analysis of what other states have done and any applicable strategies to minimize the impact of deicers on wetlands here in Colorado. If the team wanted to supplement the research with additional funding, other specific locations could be added within the project boundary. Ben and Francesca plan to discuss additional locations in the alpine and mountainous areas. Francesca said it takes a very long time for the university contracting agreement to be done and we are not anticipating the funding to be available until sometime in 2024.

8. Next Steps

As there are several outstanding decisions, the team will reach back out to the SWEEP and ALIVE ITFs to coordinate with them on some options for water quality and wildlife crossings. Following this, the information the team gathers from upcoming public engagement will be synthesized, and we should have meaningful recommendations.

Action Item	Assigned to	Date Completed
Look at adding additional spaces to US 6 Chain Station		
Option	Ulterg	
Send Tracy Sakaguchi the US 6 Chain Station Option	Ulteig	
Update the CSS Evaluation Matrix to include US 6 Chain		
Station	Ulterg	
Update the Accessibility and Mobility section of the CSS		
Matrix for the different options	Ulterg	
Reevaluate the Environmental section of the CSS Matrix		
for the Chain Station Options that add capacity	Ulterg	

Action Items



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Region 1

Action Item	Assigned to	Date Completed
Lay out the two-lanes for Option 4D to see is it is		
feasible	Unterg	
Look at Region 3 VMS/Chain Station program to see if it		
could be implemented on this project	Unterg	
Set up meetings with stakeholders to discuss	Book	
reasonably foreseeable projects	FEAK	
Compile a list of Floyd Hill projects that may be used for	CDOT	
reasonably foreseeable projects	CDOT	
Set up a meeting with HDR to discuss water quality	Poak	
treatment for the design	FEAK	
Consider adding additional alpine and mountainous	CDOT	
locations to CSU research deicing project		





Westbound Bakerville to EJMT Climbing Lane TT Meeting #5 April 7, 2023

Department of Transportation

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Meeting Agenda

- Welcome and Introductions (10 minutes)
- Project Update (10 minutes)
- Decision Schedule (5 minutes)
- Chain Station Options and Evaluation Matrices (75 minutes)
- Reasonably Foreseeable Projects (10 minutes)
- Next Steps (5 minutes)

MEETING PURPOSE: Evaluate chain station design options against CSS criteria to recommend concepts for further development.





Ground Rules

- Maximize productivity
- Share time so that everyone can participate
- Stay on point and on time
- Record issues needing future discussion in parking lot
- Close decisions and identify action items





Project Update

- Meeting with Colorado Motor Carriers Assoc.
- Coordination with CDOT Operations
- Public Engagement





Decision Schedule

Element	Options	Considerations	Timeframe	Decision
Beginning Transition	East of Bakerville, West of Bakerville and at Bakerville	Trailhead facilities, truck merging and grades, interaction with Chain Station, On/Off Ramp traffic, and geohazard impacts.	COMPLETE	Beginning of lane
Ending Transition	East of brake check, at brake check, at signal	Truck grades and merging, improve access points to parking area at EJMT, proximity to tunnel with lane drop.	COMPLETE	End of lane
Widening	North/Median/Balanced	Future EB widening, geohazards, paving in the median, wetlands, and environmental impacts.	COMPLETE	Alignment Option
US 6	Three to five options, two eliminated due to steep vertical grades and geohazard impacts.	Loveland access, parking along WB off ramp, WB off ramp free flow movement, storage at stop sign, interchange wayfinding, and input from Tech Team on evaluation matrix.	COMPLETE	Interchange selection
Wildlife Crossings	Four locations	Topography, interaction with change stations and recreation sites	COMPLETE	Preliminary Recommendation for two locations (MP 217.3- Dry Gulch and MP 220.1 - Kearney Gulch); Wildlife fencing from Bakerville to EJMT.



Element	Options	Considerations	Timeframe	Decision
Chain Stations	Improve at current location, relocate and/or expand	Geohazard impacts, positive separation, acceleration/deceleration lanes, added capacity, and input from Tech Team on evaluation matrix.	March/April 2023	Locations of chain stations
Other (e.g. water quality, bridges)	Water Quality - Treatment options for de-icing; Bridge replacement or widening.	Water quality pond locations; Existing conditions of bridges and ability to widen structure, doesn't preclude EB widening, and input from Tech Team on evaluation matrix.	April 2023	Design related to water quality and bridges



Chain Station Options and Evaluation





Reasonably Foreseeable Projects

Generally, projects are reasonably foreseeable if:

- 1. Project applications, entitlements, and/or construction are pending with a government agency,
- 2. The project is included in an agency's budget or capital improvement program,
- 3. The project is a foreseeable future phase of an existing project, or
- 4. The project likely would occur within the 2050 planning horizon.









FINALIZE RECOMMENDATION FOR DESIGN SCHEDULE CHAIN STATIONS PUBLIC OUTREACH