# A notification tool to inform users and provide actionable recommendations for commuting during an incident causing major roadway delays in the Seattle area.



#### **Seattle Area Incident Avoidance**



See live updates and closures of a major incident



Visually explore affected areas

#### **Inadequate Solutions**

Current solutions cannot solve the complex problems that commuters face when affected by a traffic incident.

	Incident Notification	Trip Planning	Rerouting	Mobile Tickets
TransitGo				~
OneBusAway				~
Google Maps			$\checkmark$	
Puget Sound Trip Planner				
WSDOT App				

### **Solution Goals**

– **Public** Inform the public and provide actionable recommendations for commute alternatives following an incident causing major roadway delays in Seattle.

- Transit Agencies Publicize unified message from all transit agencies to the effect of reducing SOV traffic and encouraging the use of public transportation during a major traffic incident.

SAIA Seattle Area Incident Avoidance							
LIVE I-90 Tanker Crash and Oil Spill							
	Information	Мар	Plan your rout	e			
•	Current locatior	ı					
	3482 Newark St	t.					
C	AR NO CAR		SE	ARCH			
1:00 F	PM 1:30 PM	2:00 PM	2:30 PM	3:00 PM			
Reco	mmended route						
æ	× ا	880	*				
Leave	e in <b>3 mins</b>	Arri	val <b>2:44 PM</b>				
Othe	r routes						
• •							
Leave	e in <b>1 hr 10 mins</b>		Arrival 2:57 PM				
	F	à					
Leave	e now	Arrival	2:40 PM				



Accurately plan your route to avoid the incident









### **Solution Requirements**

- Accessible by any internet-enabled device
- Provide actionable recommendations that prioritize public transit
- Include options with mobile ticket validation for Seattle transit
- Create unified voice for all agencies in regards to incident information
- Reduce single-occupancy vehicle traffic on roadways during an incident

### Work Completed

- Interviewed industry professionals from Google Maps, OneBusAway, Commute Seattle, TransitGo, CBS News, and more

- Conducted data analysis on 95 survey responses from commuters in Puget Sound
- Created comparison matrix of existing solutions [see table] and completed literature review

#### Marketing Plan

- Introduce users to the site through social media
- Provide additional information through earned media
- Reinforce brand awareness, conversion with out-of-home ads
- Solicit user feedback after each incident











CIVIL & ENVIRONMENTAL ENGINEERING



HUMAN CENTERED DESIGN & ENGINEERING

**Civil Engineering** Steven Tuttle – External Coordinator Catherine Wang – Implementation Lead

**Electrical and Computer Engineering** Anny Kong – Modeling Lead

**Department of Communications** Chris Angkico – Marketing Lead

### What's the problem?

– Fragmented communications between transit agencies, media, and public

– No actionable recommendations or central platform for useful information about transit incidents

- Current solutions don't have all the necessary features to provide transit recommendations during an incident



## the public.

# Acknowledgements

Andisheh Ranjbari [UW MIC] for being an understanding and fair mentor Travis Phelps [WSDOT] for being responsive and supportive of our ideas Gaia Borgias [UW CoMotion] for organizing and executing this capstone project Michael [Sound Transit] and Matt [King County Metro] for participating in our weekly meetings

Feed Specification) formatted

**Future Work** 

Conclusion



Yuki Asakura – Data Lead Pari Gabriel – Project Manager

### Where's the solution?

A platform for transparent, consistently formatted communication from all stakeholders that can be sent directly to



#### **Technical Implementation**

- Online demo created in Webflow and Javascript
- Traffic simulations ran in INRO transportation software
- Final version will use data from the Virtual Command Center that is GTFS (General Transit

## - Creating an accurate rerouting algorithm outside of Google Maps

- Decide site hosting and finalize cross-platform linking (parking, mobile ticketing) – Partnerships with parking division of SDOT
- Easily accessible solution to inform public of incidents and empower them to make decisions by providing actionable recommendations
- Don MacKenzie [UW MIC] for always being willing to be the "bad cop" and making sure we're on the right path