



Seattle
Department of
Transportation

University District
Technology
Safety Project



MICMA

Multimodal Integrated Corridor Management for All

Funding

FHWA

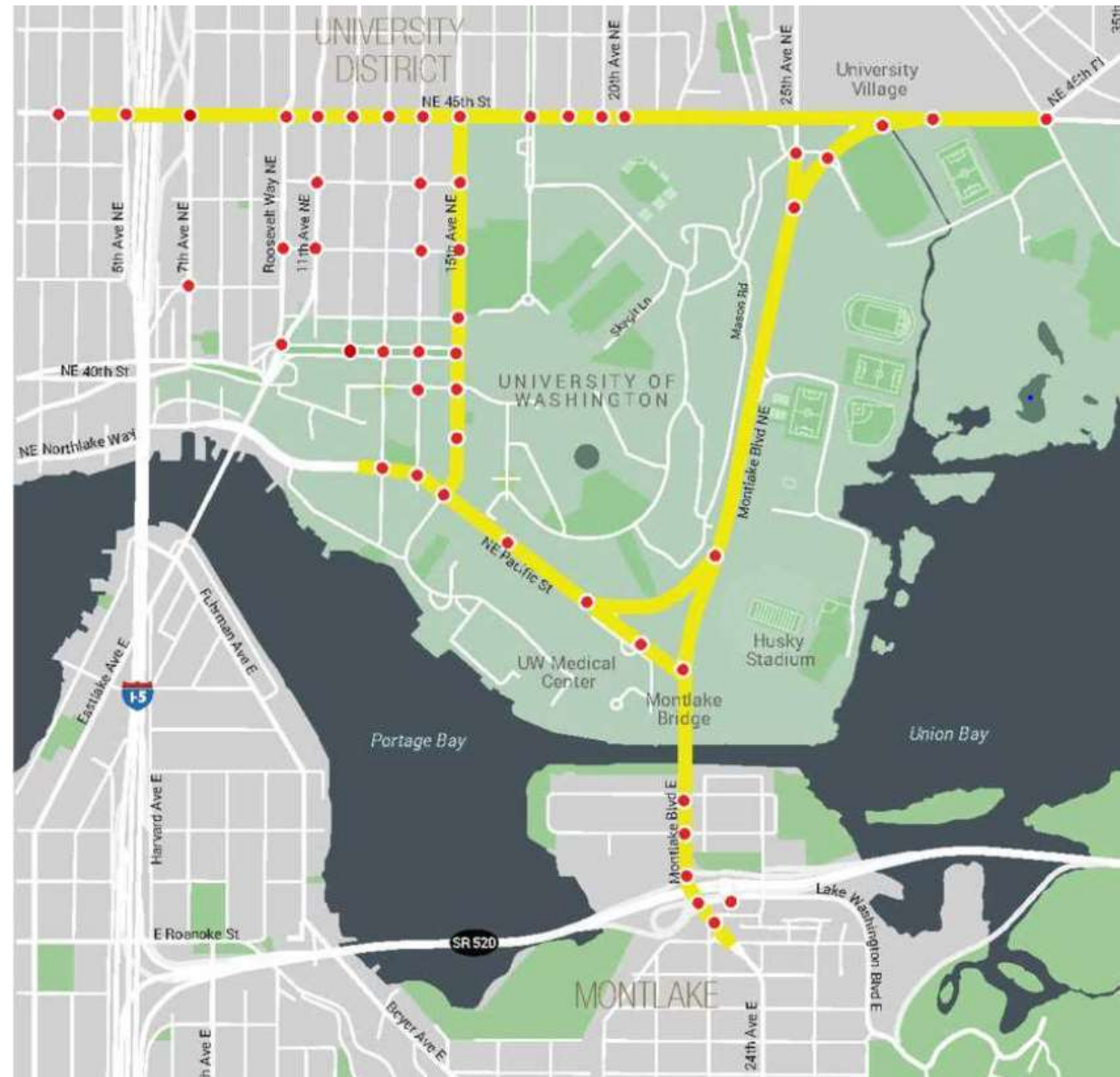
- ATCMTD Grant - \$4M

Match

- SDOT Match \$5M
- WSDOT In-Kind Match \$3.5M (SR-520)
- Soft Match \$580k (Private)

Total Funding \$13.1M

Awarded in 2019



Project Goal

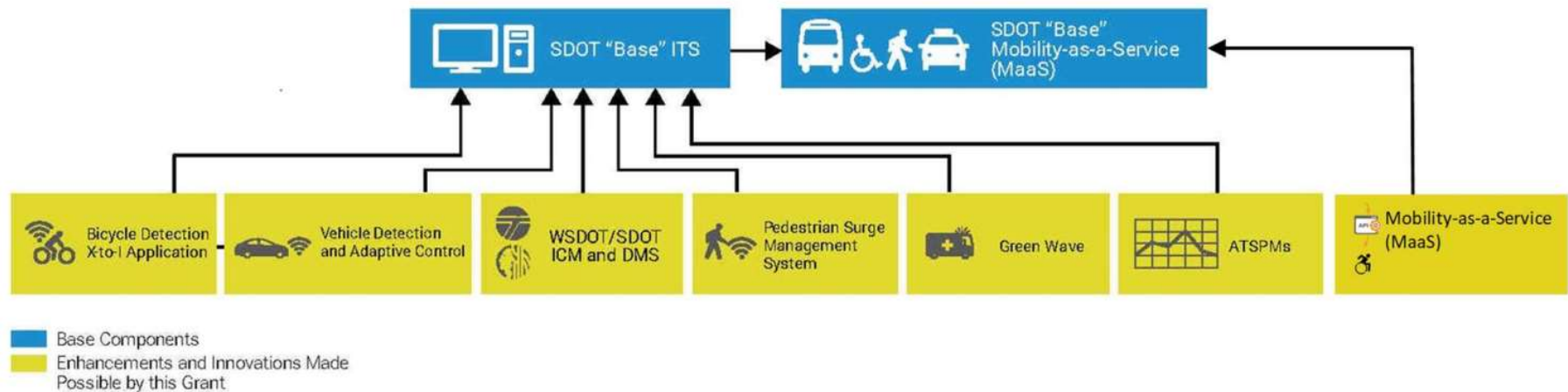
Upgrade existing traffic signals to current ITS standards and integrate data management solutions to improve multimodal operations.

Existing Traffic Challenges

- High Vehicle, Pedestrian and Cyclist volumes
- Major Transit Hub
- Emergency Vehicles
- Freeway Incidents
- UW Special Events and Games
- Construction
- Bridge Openings



Project Components



- Base ITS Enhancements/Adaptive Signal Control
- GreenWave
- ATSPMs (Advance Traffic Signal Performance Measures)
- Ped Surge Management
- Cyclist X-to-I Detection
- WSDOT-SDOT Incident Corridor Management (ICM)
- Mobility-as-a-Service (MaaS) – Including Incident Management Software/SRT App with open API, and Data Portal

GreenWave

Cloud-Based Emergency Vehicle Pre-emption

- Center-to-Center Solution
- Integration with SFD's Computer Aided Dispatch
- Advance Traffic Clearing for Emergency Vehicles
- 2-year Grant Funded Pilot Project



LYT Turn-Key Solution



LYT will provide the Seattle Department of Transportation (SDOT) with an installation and service period of LYT's cloud-based centralized system for emergency vehicle pre-emption



LYT's signal pre-emption solution will provide traffic flush patterns (Green Wave) for emergency vehicles during times of high traffic



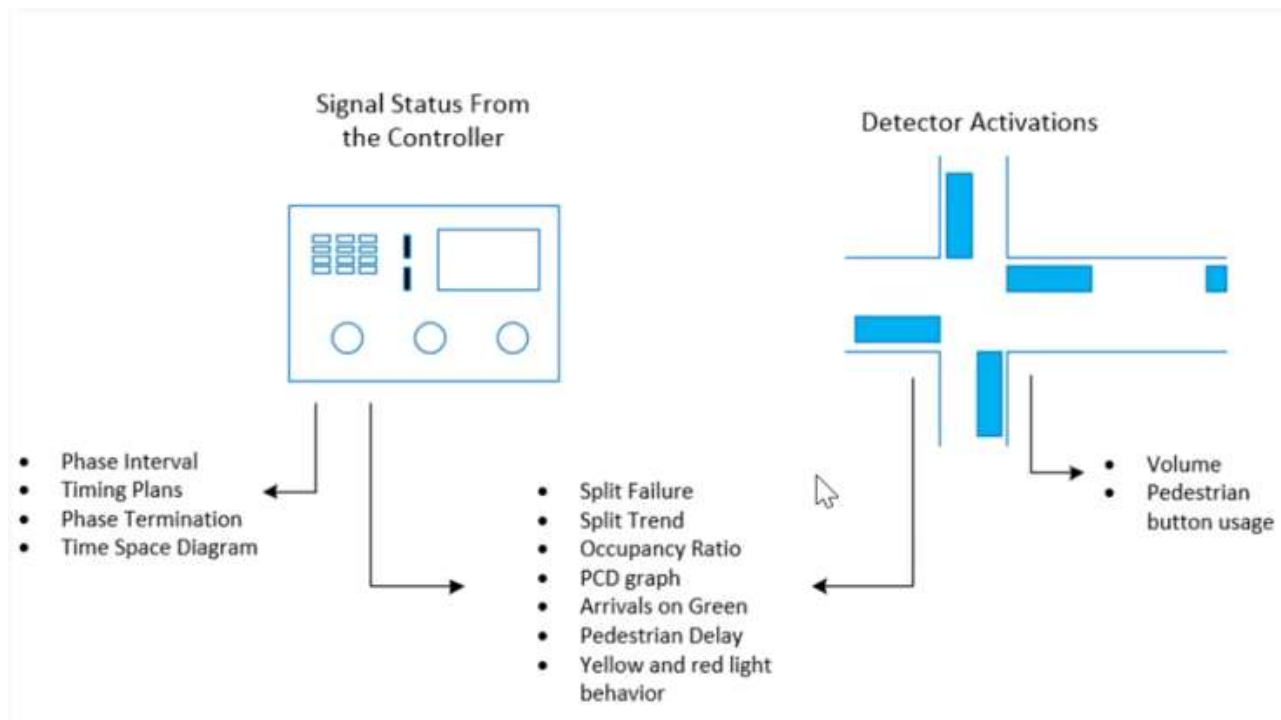
LYT will also provide SDOT with user access to the LYT web portal to view live operations and reporting of emergency vehicle pre-emption



LYT shall use SDOT's networks, SFD vehicles, and other Seattle information systems to provide conditional pre-emption to City vehicles

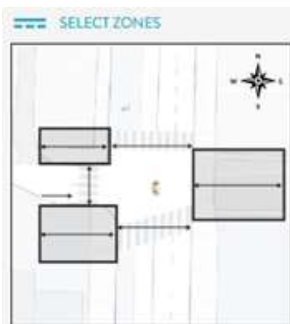
Automated Traffic Signal Performance Measures

- Metrics from 40 intersections



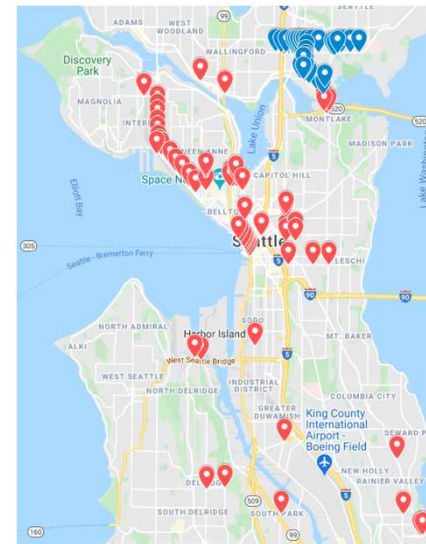
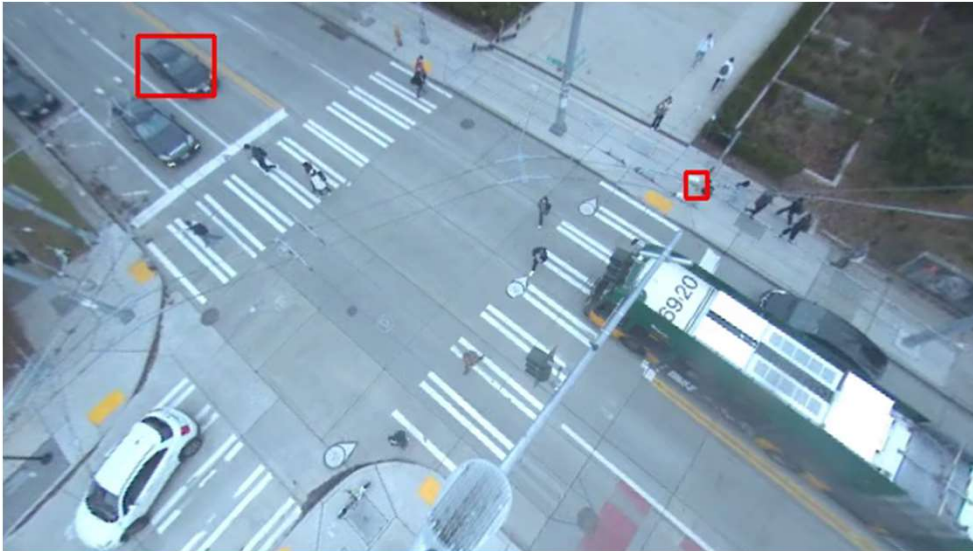
Pedestrian Surge/Bicyclist Detection

- Goal: Treat people on bikes and people walking just like people driving
 - Each user will feed into the controller as a detection
 - Surges of detections will be given longer signal times



Intersection Analytics

- Near miss analysis
- Red light running (Car and Ped)
- Lane compliance
- Wrong way driving
- Stopped vehicle detection
- Near Miss heat maps



Illegal Crossing Detection



IC
3,649 EVENTS



Pedestrian Signal Violation Detection



PSV
17,036 EVENTS



Near-Miss Detection (Vehicle-VRU)



NM-VRU
93 EVENTS



Near-Miss Detection (Vehicle-Vehicle)

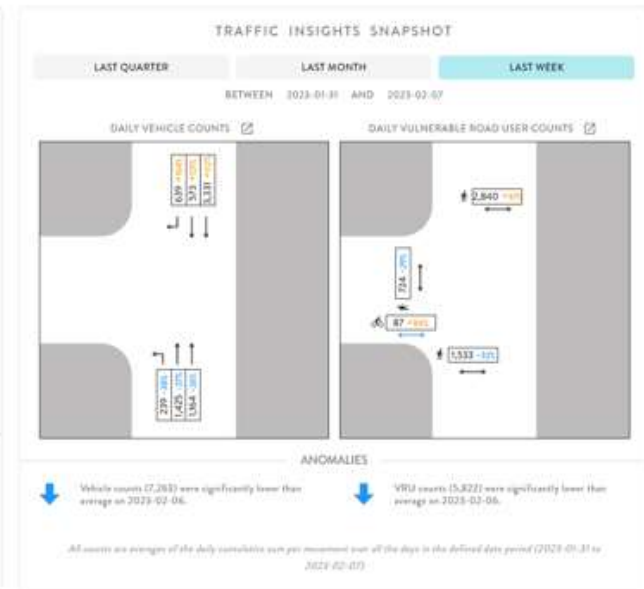
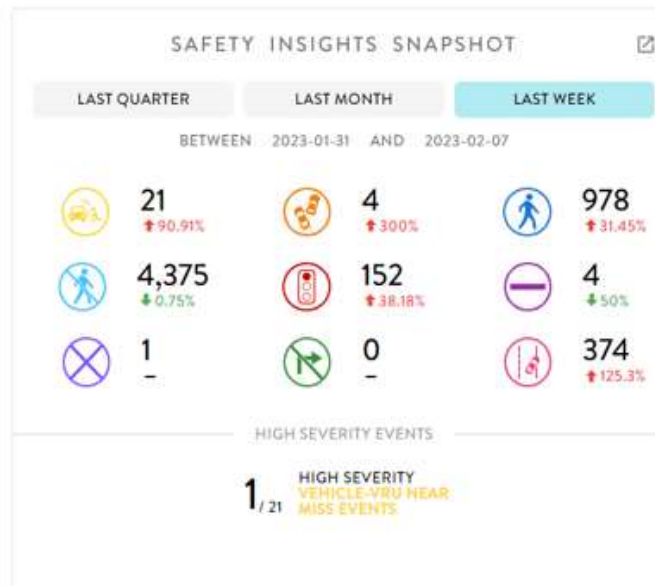
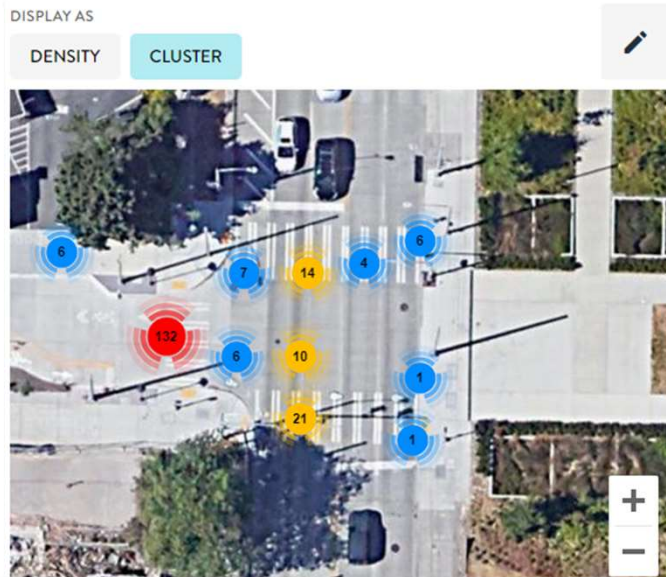


NM-VV
10 EVENTS



Intersection Analytics

NEAR MISS HEATMAP

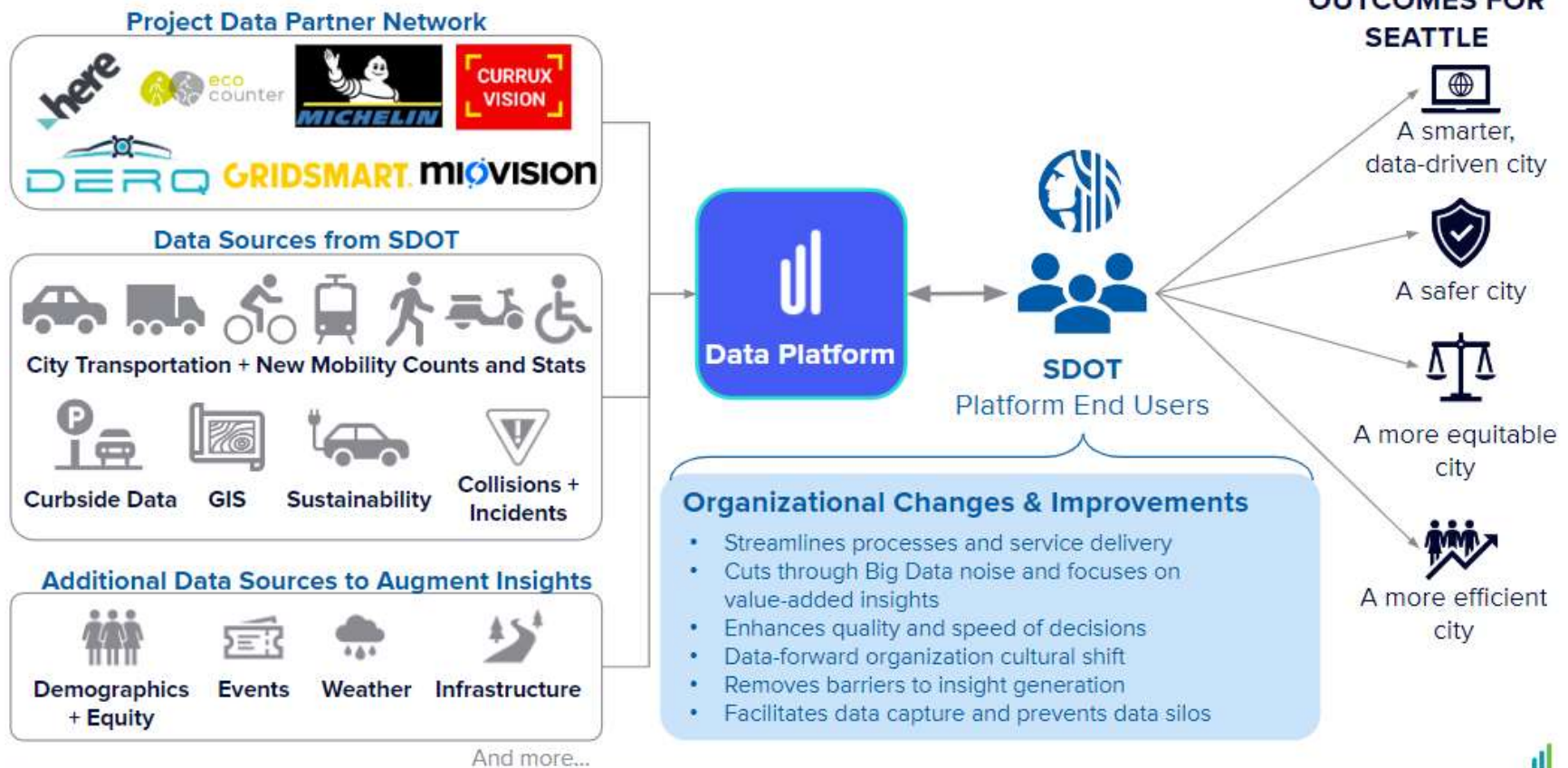


Available snapshots to quickly review quarterly, monthly and weekly trends:

- Safety performance scores for vehicles, VRUs and the overall intersection
- Changes (increases or decreases) in the various safety event types
- Fluctuations in vehicular and vulnerable road user counts

Mobility-as-a-Service Data Strategy

FUTURE-PROOFED, SCALABLE CLOUD-BASED SYSTEM



MaaS Data Portal: UrbanLogiq

- TOD purchased 2-year subscription 2023-2024
- All data in the cloud
- API access
- Public access
- Internal reporting
- Collisions, Traffic Volumes, Speeds, Classifications, Bike Volumes, demographic data, probe data, etc.
- External data can be added a-la-carte

The screenshot shows the 'Crash Analysis' dashboard. On the left is a vertical navigation bar with icons for 'Use Cases', 'Explore', 'Projects', and 'Reports'. The main content area has a title 'Crash Analysis' and a 'Back to Use Cases' link. Below the title are two tabs: 'Dashboard' (selected) and 'Before and After'. The 'Time period' is set to 'Jan 01, 2021 (Fri) - Dec 31, 2021 (Fri)'. There are sections for 'Area(s) of interest', 'Filters', and 'Contextual Layers Panel', each with an '+ Add' or 'Open' button. A large blue 'Generate Report' button is at the bottom.

The screenshot shows a map interface with a search bar at the top. The map is covered with numerous purple dots representing crash locations. A popup window titled 'Crashes (Seattle)' is open, displaying the following details for a specific crash:

- SDOT Collision Description:** MOTOR VEHICLE STRUCK MOTOR VEHICLE, FRONT END AT ANGLE
- SDOT Collision Number:** (None)
- Number of Serious Injuries:** 0.00
- Highest Severity:** Property Damage Only Collision
- State Collision Description:** Entering at angle
- Weather:** Raining
- Day Of Week:** Sunday
- Highest Severity:** 3