POWERFUL TECHNOLOGY SOLUTIONS
FOR THE CITY AND PUBLIC WE SERVE

2018 Surveillance Impact Report

LICENSE PLATE READERS

SEATTLE DEPARTMENT OF TRANSPORTATION

October 8 2018

Seattle
Information Technology

CONTENTS

SURVEILLANCE IMPACT REPORT OVERVIEW

The Seattle City Council passed Ordinance 125376, also referred to as the "Surveillance Ordinance", on September 1, 2017. This Ordinance has implications for the acquisition of new technologies by the City, and technologies that are already in use that may fall under the new, broader definition of surveillance.

SMC 14.18.020.B.1 charges the City's Executive with developing a process to identify surveillance technologies subject to the Ordinance. Seattle IT, on behalf of the Executive, developed and implemented a process through which a privacy and surveillance review is completed prior to the acquisition of new technologies. This requirement, and the criteria used in the review process, are documented in Seattle IT Policy PR-02, the "Surveillance Policy".

HOW THIS DOCUMENT IS COMPLETED

As Seattle IT and department staff complete the document, they should keep the following in mind.

- Responses to questions should be in the text or check boxes only; all other information (questions, descriptions, etc.) should **NOT** be edited by the department staff completing this document.
- All content in this report will be available externally to the public. With this in mind, avoid using acronyms, slang, or other terms which may not be well-known to external audiences. Additionally, responses should be written using principally non-technical language to ensure they are accessible to audiences unfamiliar with the topic.

PRIVACY IMPACT ASSESSMENT

PURPOSE

A Privacy Impact Assessment ("PIA") is a method for collecting and documenting detailed information collected in order to conduct an in-depth privacy review of a program or project. A PIA asks questions about the collection, use, sharing, security and access controls for data that is gathered using a technology or program. It also requests information about policies, training and documentation that govern use of the technology. The PIA responses are used to determine privacy risks associated with a project and mitigations that may reduce some or all of those risks. In the interests of transparency about data collection and management, the City of Seattle has committed to publishing all PIAs on an outward facing website for public access.

WHEN IS A PRIVACY IMPACT ASSESSMENT REQUIRED?

A PIA may be required in two circumstances.

1) When a project, technology, or other review has been flagged as having a high privacy risk.
2) When a technology is required to complete the Surveillance Impact Report process. This is one deliverable that comprises the report.

1.0 ABSTRACT

1.1 Please provide a brief description (one paragraph) of the purpose and proposed use of the project/technology.

Travel time, or the time required to traverse a route between any two points of interest, is a fundamental measure in transportation. One way the Seattle Department of Transportation (SDOT) collects travel time information in the City by leveraging License Plate Reader (LPR) cameras. LPR systems consist of high-speed cameras combined with sophisticated computer algorithms capable of converting the images of license plates into computer-readable data. The conversion occurs in Washington State Department of Transportation (WSDOT) systems. This information is then used to create travel times for system engineering, traffic planning, and public distribution purposes.

WSDOT does not archive the plate data. After the matching process, the plate information is deleted automatically from WSDOT's traffic system. SDOT does not receive license plate or other identifying information.

1.2 Explain the reason the project/technology is being created or updated and why the PIA is required.

LPR cameras meet two inclusion criteria from the PR-02 Surveillance Policy:

1. Technology whose primary purpose is to observe or analyze the movements, behavior, or actions of identifiable individuals in a manner that is reasonably likely to raise concerns about civil liberties, freedom of speech or association, racial equity or social justice. Identifiable individuals also include individuals whose identity can be revealed by license plate data when combined with any other record.
2. The technology collects data that is personally identifiable even if obscured, de-identified, or anonymized after collection.

2.0 PROJECT / TECHNOLOGY OVERVIEW

Provide an overview of the project or technology. The overview gives the context and background necessary to understand the purpose, mission and justification for the project / technology proposed

2.1 Describe the benefits of the project/technology.

SDOT has 99 LPR Cameras installed throughout the City. Based on the data captured, SDOT has information that can be provided to travelers and traffic engineers to assist in decreasing travel times throughout the metropolitan area and making the best routing decisions. This information includes calculated average speeds for different monitored roadway segments, and average progress time along different monitored roadway segments, representative of travel time and delays. This data allows traffic engineers to correct traffic signal timing and provide information to travelers about expected delay.

2.2 Provide any data or research demonstrating anticipated benefits.

Urban traffic congestion in the United States is a significant drain on productivity and the environment. The INRIX Traffic Scorecard 2017 reveals that Seattle has the 9th worst traffic in the U.S., and the average driver spends 55 hours a year in congested traffic. While in the past this congestion has been mitigated by expanding the roadway network, roadway infrastructure investments are significantly expensive and have been shown in some cases to actually exacerbate congestion.

According to the United States Department of Transportation - Federal Highway Administration (FHWA), "Travel time to a destination is a key piece of information that motorists want and need. It is vital in travelers making good decisions about which route to take and whether to divert from their planned path. If motorists were to be provided travel time information on arterial highways, they may plan their trips accordingly with this new information, decreasing delays and the potential for congestion downstream. They may also be warned in advance of an incident, allowing sufficient time to choose an alternate route around congestion and delays.

Technology now makes it feasible to provide drivers with real time information about how long it will take to reach a given destination. Travel time is also a key piece of information for transportation agencies. Real-time travel time information can allow agencies to monitor roadway performance, identify problems, develop forecasts, plan future projects, and evaluate the effects of new projects. Travel time data can also help to meet goals for integrated corridor management or meet Federal information provision mandates such as the Real-Time System Management Information Program" (Arterial Data Collection Technology, 2013).

Travel time data is a key input to Intelligent Transportation Systems (ITS) applications. Advancement in vehicle tracking and re-identification technologies and proliferation of location aware and connected devices has made network wide travel time data available to transportation management agencies. Travel time measurement gives SDOT the most important traffic information for indicating a road's mobility performance, and these measurements are the basis for decisions which improve the traffic operations of Seattle's road networks.

The data is primarily used by both our Traffic Signal Timing Engineers and Transportation Operations Center (TOC) staff. Timing Engineers work with modeling software to optimize traffic movements, and the travel time data provided by LPR's informs the effectiveness of their actions. The TOC provides the data to commuters in real-time on both large roadside reader boards, and on the Traveler Information Map web application.

Works Cited

Singer, Jeremiah, et al. "Travel Time on Arterials and Rural Highways: State-of-the-Practice Synthesis on Arterial Data Collection Technology." Arterial Data Collection Technology, U.S. Department of Transportation Federal Highway Administration, Apr. 2013, ops.fhwa.dot.gov/publications/fhwahop13028/index.htm.

2.3 Describe the technology involved.

SDOT has deployed ninety-nine PIP's LPR cameras. The P372 is a single or dual camera complete with video processing/ control/ Automatic License Plate Reader (ALPR). The P372 is enclosed in a rugged extruded aluminum housing sealed to IP67. The P372 detects the retro reflective return from a license plate in hardware using digital signal processing algorithms and captures the field containing the best image of the license plate. The P372 streams the captured image to the software ALPR engine that performs optical character recognition on the image and reports the license plate number with an associated confidence of the result.

The LPRs are physically mounted on arms that extend over the roadway, and power is provided from the nearest traffic signal cabinet. The LPR's are programmed with an IP address, and they communicate by being physically connected to the SDOT ITS Network switch located in that same cabinet.
On detection of a vehicle. the P372 will send a message to the Washington State Department of Transportation (WSDOT) host comprising time stamp and tag details. The connection to the host is opened on the first plate and thereafter maintained open until no vehicles have been detected for a period, at which time the connection will be closed. The period will be half of keep alive, or if this is set to 0 then will default to 20s. On transmission failure (e.g. lost connection) the P372 will retry the connection and transmission.

Format of Tag Message

Each number plate record will comprise:

- Time stamp
- Station identifier
- Camera channel
- ALPR plate string
- Confidence factor

The record will be comma delimited and terminated by newline.

yyyy-mm-dd:hh:mm:ss:aa,SSSS,n,ttttt,cc, where:

yyyy	Year
mm	Month
dd	Day
hh	Hour
mm	Minutes
ss	Seconds
aa	1/100 seconds
SSSS	Station identifier string as entered in configuration
n	Camera number
ttttt	Vehicle tag – exact length will depend upon plate format.
cc	Read confidence 0 - 99

2.3 Continued…

SDOT and WSDOT have established an intergovernmental data network to facilitate the sharing of information. This occurs by a WSDOT network router being installed near an SDOT network router in the Seattle Municipal Tower. These two networks are separated by an SDOT managed firewall that is responsible for filtering the data traffic. This firewall translates each LPR's IP address so it can be sent to the WSDOT host computer for processing. WSDOT computer systems match the number plates and return the average travel time difference between plate readings. WSDOT does not archive the plate data. After the matching process, the plate information is deleted automatically from WSDOT's traffic system.

SDOT then receives the travel times back from WSDOT from the publicly available Application Programming Interface (API). That API is consumed by a custom built SDOT software which then feeds the relevant data into our Cameleon ITS sign control software. Cameleon ITS then sends travel time information to SDOT Dynamic Message Signs (DMS).

DMS are the large, electronic signs which overhang or appear along major streets throughout Seattle. The signs are typically used to display information about traffic conditions, travel times, construction, and road incidents. Travel time information is the default message that appears on a DMS daily from 5 AM – 9 AM, and 4 PM – 7 PM along 12 corridors. With this type of information displayed, drivers can make real time route choices given the traffic conditions ahead. Recently, SDOT has began to combine the LPR travel time data with SDOT's other travel time technology (Acyclica) to provide information to even more destinations. SDOT also provides travel time information on the Traveler Information Map web application.

2.4 Describe how the project or use of technology relates to the department's mission.

SDOT's mission is to deliver a high-quality transportation system for Seattle. In our quickly growing city, moving people safely and reliably is an ever-increasing challenge. Technology can help us make more efficient use of our streets. Through Intelligent Transportation Systems (ITS), we can use communications technologies on the street and via automated traffic systems, to improve safety and mobility for all travelers. Travel time measurement gives SDOT the most important traffic information for indicating a road's mobility performance, and these measurements are the basis for decisions which improve the traffic operations of Seattle's road networks.

2.5 Who will be involved with the deployment and use of the project / technology?

LPR cameras are either installed by either qualified SDOT personnel, or authorized electrical contractors associated with a project. Installation locations are identified by determining where there are gaps in observational coverage along corridors specified in the ITS Strategic Plan 2010-2020. This plan provides a 10-year approach for implementing ITS in Seattle. ITS employ electronics and communications technologies on the street, and automated traffic systems, to enhance mobility for all modes by increasing the efficiency and safety of the transportation infrastructure. This includes implementing traffic cameras citywide to improve the response to outages and incidents.

The ITS Key Arterial Network is not fully instrumented to provide the desired ITS systems and services. The devices deployed will depend upon the state of equipment already in place, and the specific needs of each corridor and subarea. Deployment will include a mixture of technologies including communications and LPR. Highest priority is assigned to locations which would experience impacts from major construction projects such as the SR 520 Bridge Replacement Project and the Alaskan Way Viaduct Replacement Project.

ITSStrategicPlan201
02020.pdf

3.0 USE GOVERNANCE

Provide an outline of any rules that will govern the use of the project / technology. Please note: non-City entities are bound by restrictions specified in the Surveillance Ordinance and Privacy Principles and must provide written procedures for how the entity will comply with any restrictions identified.

3.1 Describe the processes that are required prior to each use, or access to/ of the project / technology, such as a notification, or check-in, check-out of equipment.

LPR cameras are powered on and functioning all the time. The devices automatically transmit their data to WSDOT for processing without any user intervention. The LPR's are only remotely accessible by the SDOT TOC Technical Team who are responsible for ensuring that the devices are functioning as expected. Each device is protected by a username password combination that is only known by this staff, and they access the LPR cameras as needed while troubleshooting technical issues.

3.2 List the legal standards or conditions, if any, that must be met before the project / technology is used.

There are no legal standards dictating the deployment and use of LPR cameras.

3.3 Describe the policies and training required of all personnel operating the project / technology, and who has access to ensure compliance with use and management policies.
Include links to all policies referenced.

All SDOT employees are required to take annual Privacy and Information Security Awareness training as provided by Seattle IT.

4.0 DATA COLLECTION AND USE

Provide information about the policies and practices around the collection and use of the data collected.

4.1 Provide details about what information is being collected from sources other than an individual, including other IT systems, systems of record, commercial data aggregators, publicly available data and/or other city departments.

This question is not applicable to this technology. All data is captured exclusively by the LPR cameras.

4.2 What measures are in place to minimize inadvertent or improper collection of data?

LPRs cameras are a technology that enables the automatic identification of a vehicle by the alphanumeric characters on a license plate. LPRs function through pairing cameras with computer software: cameras record an image of a plate, and then a computer translates the image into alphanumeric characters electronic systems can understand. Once the camera(s) capture an image of sufficient quality, the image is sent to a computer system that uses a series of algorithms to analyze the image, identify and isolate a license plate, and reduce and render the image into the essential alphanumeric characters. Once the plate is isolated and characters segmented, the optical character recognition (OCR) algorithm makes a probabilistic guess as to which alphanumeric characters exist on the plate. If the image is low quality or other problems exist, the algorithm will have to make a lower probability guess. These systems are built strictly for this purpose, and no information about the plates that are captured to create travel times is stored or used for other purposes.

4.3 How and when will the project / technology be deployed or used? By whom? Who will determine when the project / technology is deployed and used?

LPR cameras are either installed by either qualified SDOT personnel, or authorized electrical contractors associated with a project. Installation locations are identified by determining where there are gaps in travel time coverage along corridors specified in the Intelligent Transportation System (ITS) Strategic Plan 2010-2020. This plan provides a 10-year approach for implementing ITS in Seattle. ITS employ electronics and communications technologies on the street, and automated traffic systems, to enhance mobility for all modes by increasing the efficiency and safety of the transportation infrastructure. This includes implementing traffic cameras citywide to improve the response to outages and incidents.

The ITS Key Arterial Network is not fully instrumented to provide the desired ITS systems and services. The devices deployed will depend upon the state of equipment already in place, and the specific needs of each corridor and subarea. Deployment will include a mixture of technologies including communications and LPR cameras. Highest priority is assigned to locations which would experience impacts from major construction projects such as the SR 520 Bridge Replacement Project and the Alaskan Way Viaduct Replacement Project.

The primary users of travel time data are users in the Transportation Operations Center (TOC). The TOC houses the central processing and communications systems for the ITS program, and is where operators monitor and manage traffic signals, traffic cameras, Dynamic Message Signs, and other ITS devices.

ITSStrategicPlan201
02020.pdf

4.4 How often will the technology be in operation?

The technology collects data 24 hours a day, seven days a week, 365 days a year.

4.5 What is the permanence of the installation? Is it installed permanently, or temporarily?

LPR cameras are installed permanently.

4.6 Is a physical object collecting data or images visible to the public? What are the markings to indicate that it is in use? What signage is used to determine department ownership and contact information?

LPR cameras are installed over travel lanes on dedicated arms that are connected to signal poles. There are no markings that indicate that they are in use, and there is no signage that indicates department ownership and contact information.

4.7 How will data that is collected be accessed and by whom?
Please do not include staff names; roles or functions only.

All aggregated traffic data will be accessed by SDOT personnel, or by applications leveraging the WSDOT API. Users include:

1. Intelligent Transportation Engineers
2. Transportation Operations Center Staff
3. Traffic Signal Timing Engineers
4. Traffic Operations Division Leadership

4.8 If operated or used by another entity on behalf of the City, provide details about access, and applicable protocols. Please link memorandums of agreement, contracts, etc. that are applicable.

LPR cameras are not operated by another entity on behalf of the City.

4.9 What are acceptable reasons for access to the equipment and/or data collected?

Acceptable reasons for access to the equipment include device installation or issue troubleshooting. Access to the data is permitted to perform traffic analysis, conduct research, create reports, or connecting to the API with software applications.

4.10 What safeguards are in place, for protecting data from unauthorized access (encryption, access control mechanisms, etc.) and to provide an audit trail (viewer logging, modification logging, etc.)?

The LPR's are only remotely accessible by members of the SDOT TOC Technical Team who are responsible for ensuring that the devices are functioning as expected. Each device is protected by a username password combination that is only known by this staff, and they access the LPR cameras as needed while troubleshooting technical issues.

5.0 DATA STORAGE, RETENTION AND DELETION

5.1 How will data be securely stored?

WSDOT immediately processes the travel time information, deletes the license plate numbers or source data, never storing any information about the license plates used to create them. SDOT also doesn't store any personally identifiable information through this process.

5.2 How will the owner allow for departmental and other entities, to audit for compliance with legal deletion requirements?

There is no legal deletion requirement for travel time information, however as explained in section 5.1 the actual license plate number, or source data, is deleted immediately after processing to determine current travel times between defined data stations.

5.3 What measures will be used to destroy improperly collected data?

LPR cameras are specifically designed to distinguish license plate characters, and they are positioned over roadways for that purpose. SDOT never stores any data associated with the plate recognition process. It would not be possible for someone working for the City to use this data to identify an individual or track their movements.

5.4 Which specific departmental unit or individual is responsible for ensuring compliance with data retention requirements?

There are no legal deletion requirements.

6.0 DATA SHARING AND ACCURACY

6.1 Which entity or entities inside and external to the City will be data sharing partners?

SDOT shares LPR data with the Washington State Department of Transportation (WSDOT) for the purpose of facilitating information processing and distribution of travel times between defined data stations

6.2 Why is data sharing necessary?

Data sharing is necessary because WSDOT processes the LPR data and provides SDOT travel times based on that information. SDOT and WSDOT have established an intergovernmental data network to facilitate the information distribution. WSDOT receives that data and then creates a travel time between two or more defined data stations (LPR sites). WSDOT immediately processes the travel time information and never stores any information about the license plates used to create them. SDOT also doesn't store any personally identifiable information through this process. SDOT then receives the travel times back from WSDOT from the publicly available Application Programming Interface (API). That API is consumed by a custom built SDOT software which then feeds the relevant data into our Cameleon ITS sign control software. Cameleon ITS then sends travel time information to SDOT Dynamic Message Signs (DMS). SDOT also provides travel time information on the Traveler Information Map web application.

6.3 Are there any restrictions on non-City data use?

Yes ☒ No ☒

6.3.1 If you answered Yes, provide a copy of the department's procedures and policies for ensuring compliance with these restrictions.

LPR information is only used for the purposed defined in the previous sections and for no other purposes.

6.4 How does the project/technology review and approve information sharing agreements, memorandums of understanding, new uses of the information, new access to the system by organizations within City of Seattle and outside agencies?

Yes ☐ No ☒

6.4.1 Please describe the process for reviewing and updating data sharing agreements.

This question is not applicable to this technology.

6.5 Explain how the project/technology checks the accuracy of the information collected. If accuracy is not checked, please explain why.

SDOT initially conducted a manual car study to confirm the validity of travel times produced by LPR camera technology. According to the FHWA, "The test vehicle technique has been used for travel time data collection since the late 1920s. Traditionally, this technique has involved the use of a data collection vehicle within which an observer records cumulative travel time at predefined checkpoints along a travel route. This information is then converted to travel time, speed, and delay for each segment along the survey route. Historically, the manual method has been the most commonly used travel time data collection technique. This method requires a driver and a passenger to be in the test vehicle. The driver operates the test vehicle while the passenger records time information at predefined checkpoints."

SDOT used fleet vehicles and two staff members to conduct the study. Each travel time route was driven to achieve 95% Confidence, +- 10% Error per the FHWA chart below:

Table 3-4. Illustrative Test Vehicle Sample Sizes on Arterial Streets

Traffic Signal Density (signals per mile)	Average Coefficient of Variation, (%) Table 3-2	Sample Sizes (iterative calculations using Equation 3-4)		
		90% Confidence, ± 10 % Error	95% Confidence, ± 10 % Error	95% Confidence, ± 5 % Error
Less than 3	9	5	6	15
3 to 6	12	6	8	25
Greater than 6	15	9	12	37

Using this method, SDOT determined that travel times produced by LPR cameras fell within that confidence range.

Travel Time Data Collection Handbook.

6.6 Describe any procedures that allow individuals to access their information and correct inaccurate or erroneous information.

Because individually identifiable information is not stored no such procedures exist.

7.0 LEGAL OBLIGATIONS, RISKS AND COMPLIANCE

7.1 What specific legal authorities and/or agreements permit and define the collection of information by the project/technology?

SDOT's license plates readers are in use specifically to determine travel times and improve traffic signaling. It is separate and distinct from Seattle Police LPR. For informational purposes, the Seattle Police Department (SPD) Manual Section 16.170 describes their use of automatic license plate readers (ALPR) by Department employees.

SDOT LPR cameras are not under this policy and no SPD employee has access to any of the devices. The license plate information SDOT accesses will never be used as part of any criminal investigation. These systems are built strictly for the purpose of determining travel times in Seattle, and no information about the plates that is captured to create the travel time data is stored.

7.2 Describe what privacy training is provided to users either generally or specifically relevant to the project/technology.

It is the understanding of SDOT that no user can access personally identifiable information from the WSDOT managed travel time system. SDOT users are trained on how to create new travel time routes. Applications of travel time information in the Department include: signal timing & coordination, traffic network optimization, street parking congestion analysis, congestion mapping, route planning, work zone congestion enforcement, variable message signs, incident detection, emergency responder routing and route utilization.

7.3 Given the specific data elements collected, describe the privacy risks identified and for each risk, explain how it was mitigated. Specific risks may be inherent in the sources or methods of collection, or the quality or quantity of information included.

There are no identified privacy risks with this system as SDOT never stores any data related to the actual license plate numbers being captured to create travel times. WSDOT also immediately deletes any license plate data after verifying that a travel time "trip" has been completed between two or more stations. No license plate information is shared with any law enforcement agency or other entity during the travel time generation process.

7.4 Is there any aspect of the project/technology that might cause concern by giving the appearance to the public of privacy intrusion or misuse of personal information?

License plate reader (LPR) systems consist of high-speed cameras combined with sophisticated computer algorithms capable of converting the images of license plates into computer-readable data. The system automates the collection of license plate numbers. A license plate number does not identify a specific person; rather it identifies a vehicle. However, the license plate number may be linked or associated with an identifiable person through a linkage with other information about the individual. As a result, while license plate numbers do not constitute personal information, their common affiliations and linkages with individuals constitutes a perceived risk to privacy.

8.0 MONITORING AND ENFORCEMENT

8.1 Describe how the project/technology maintains a record of any disclosures outside of the department.

All public information requests are funneled to the appropriate staff member and tracked by SDOT administrative staff. However, because individual license plates and associated information is deleted immediately after processing, there is no record available for public disclosure purposes. According to WSDOT, "The plate number and a time stamps are sent to WSDOT in real time over a secure network. WSDOT computer systems match the number plates and return the average travel time difference between plate readings. WSDOT does not archive the plate data. After the matching process, the plate information is deleted automatically from WSDOT's traffic system."

8.2 What auditing measures are in place to safeguard the information, and policies that pertain to them, as well as who has access to the audit data? Explain whether the project/technology conducts self-audits, third party audits or reviews.

The information captured by License Plate Reader cameras including the license plate number, and the date, time, and location of every scan is never collected, provided to other entities directly, or pooled into regional sharing systems.

FINANCIAL INFORMATION

PURPOSE

This section provides a description of the fiscal impact of the surveillance technology, as required by the Surveillance Ordinance.

1.0 FISCAL IMPACT

Provide a description of the fiscal impact of the project/technology by answering the questions below.

1.1 Current or potential sources of funding: initial acquisition costs

Current ☒ Potential ☐

Date of Initial Acquisition	Date of Go Live	Direct Initial Acquisition Cost	Professional Services for Acquisition	Other Acquisition Costs	Initial Acquisition Funding Source
2011	2012	$152,000	N/A	N/A	Federal Grant

Notes:

None.

1.2 Current or potential sources of funding: on-going operating costs, including maintenance, licensing, personnel, legal/compliance use auditing, data retention and security costs.

Current ☐ Potential ☐

Annual Maintenance and Licensing	Legal/compliance, audit, data retention and other security costs	Department Overhead	IT Overhead	Annual Funding Source
N/A				

Notes:

None.

1.3 Cost savings potential through use of the technology

According to King 5 News, “Seattle drivers spent an average of 55 peak hours in 2017 stuck in congestion, finishing ninth in the United States… Seattle drivers paid $1,853 each in 2017 for that privilege of being stuck in the city's traffic congestion.” Gathering and distributing travel time information allows SDOT to improve traffic conditions for all Seattle travelers, which provides a quantifiable cost impact for those who experience delay.

If SDOT wanted to emulate the data collection provided by License Plate Reader cameras using traditional means, the department would have to employ a team of personnel to drive Seattle’s corridors 24x7x365 and report back on their travel time experiences. That data would then have to be entered into a database and managed by additional IT staff.

Pittman, Travis. “Seattle, Tacoma among worst traffic congestion in U.S., INRIX reports.” KING, 6 Feb. 2018, www.king5.com/article/news/local/seattle-tacoma-among-worst-traffic-congestion-in-us-inrix-reports/281-515147593.

1.4 Current or potential sources of funding including subsidies or free products offered by vendors or governmental entities

N/A

EXPERTISE AND REFERENCES

PURPOSE

The following information is provided to ensure that Council has a group of experts to reference while reviewing the completed Surveillance Impact Report ("SIR"). Any individuals or agencies referenced must be made aware ahead of publication that their information has been included. All materials must be available for Council to access or review, without requiring additional purchase or contract.

1.0 OTHER GOVERNMENT REFERENCES

Please list any other government bodies that have implemented this technology and can speak to the implementation of this technology.

Agency, Municipality, etc.	Primary Contact	Description of Current Use
None.		

2.0 ACADEMICS, CONSULTANTS, AND OTHER EXPERTS

Please list any experts in the technology under consideration, or in the technical completion of the service or function the technology is responsible for.

Agency, Municipality, etc.	Primary Contact	Description of Current Use
University of Washington	Mark Hallenbeck, Director of the Washington State Transportation Center (TRAC) 206-543-6261 tracmark@uw.edu	Much of Mark's research involves the collection, use, summarization, and reporting of data that describe transportation system use and performance, and then using that information to work with the public and decision makers as they make major transportation and land use investment decisions.

University of Washington	Yinhai Wang, Professor and Director of PacTrans and STAR Lab 206-616-2696 yinhai@uw.edu	Dr. Yinhai Wang is a professor in transportation engineering and the founding director of the Smart Transportation Applications and Research Laboratory (STAR Lab) at the University of Washington (UW). He also serves as director for Pacific Northwest Transportation Consortium (PacTrans), USDOT University Transportation Center for Federal Region 10 and visiting chair for the Traffic Information and Control Department at Harbin Institute of Technology.

3.0 WHITE PAPERS OR OTHER DOCUMENTS

Please list any authoritative publication, report or guide that is relevant to the use of this technology or this type of technology.

Title	Publication	Link
Travel Time on Arterials and Rural Highways: State-of-the-Practice Synthesis on Arterial Data Collection Technology	Performing Organization Name and Address: Westat 1600 Research Blvd. Rockville, MD 20852 Sponsoring Agency Name and Address: U.S. Department of Transportation Federal Highway Administration 1200 New Jersey Ave. S.E. Washington, D.C. 20590	 fhwahop13028.pdf
Travel Time Data Collection Handbook	Performing Organization Name and Address: Texas Transportation Institute The Texas A&M University System College Station, Texas 77843-3135 Sponsoring Agency Name and Address: Federal Highway Administration Office of Highway Information Management, HPM-30 400 Seventh Street, SW Washington, DC 20590	 Travel Time Data Collection Handboo

RACIAL EQUITY TOOLKIT AND ENGAGEMENT FOR PUBLIC COMMENT WORKSHEET

PURPOSE

Departments submitting a SIR are required to complete an adapted version of the Racial Equity Toolkit ("RET").

1. To provide a framework for the mindful completion of the Surveillance Impact Reports in a way that is sensitive to the historic exclusion of vulnerable and historically underrepresented communities. Particularly, to inform the public engagement efforts Departments will complete as part of the Surveillance Impact Report.
2. To highlight and mitigate any impacts on racial equity from the adoption and the use of the technology.
3. To highlight and mitigate any disparate impacts on individuals or vulnerable communities.
4. To fulfill the public engagement requirements of the Surveillance Impact Report.

ADAPTION OF THE RET FOR SURVEILLANCE IMPACT REPORTS

The RET was adapted for the specific use by the Seattle Information Technology Departments' ("Seattle IT") Privacy Team, the Office of Civil Rights ("OCR"), and Change Team members from Seattle IT, Seattle City Light, Seattle Fire Department, Seattle Police Department, and Seattle Department of Transportation.

RACIAL EQUITY TOOLKIT OVERVIEW

RACIAL EQUITY TOOLKIT: TO ASSESS POLICIES, INITIATIVES, PROGRAMS, AND BUDGET ISSUES

The vision of the Seattle Race and Social Justice Initiative is to eliminate racial inequity in the community. To do this requires ending individual racism, institutional racism and structural racism. The Racial Equity Toolkit lays out a process and a set of questions to guide the development, implementation and evaluation of policies, initiatives, programs, and budget issues to address the impacts on racial equity.

WHEN DO I USE THIS TOOLKIT?

Early. Apply the toolkit early for alignment with departmental racial equity goals and desired outcomes.

HOW DO I USE THIS TOOLKIT?

With inclusion. The analysis should be completed by people with different racial perspectives.

Step by step. The Racial Equity Analysis is made up of six steps from beginning to completion:

Please refer to the following resources available on the Office of Civil Rights' website here: Creating effective community outcomes; Identifying stakeholders & listening to communities of color; Data resources

1.0 SET OUTCOMES

1.1. Seattle City council has defined the following inclusion criteria in the surveillance ordinance, and they serve as important touchstones for the risks departments are being asked to resolve and/or mitigate. Which of the following inclusion criteria apply to this technology?

☐ The technology disparately impacts disadvantaged groups.

☐ There is a high likelihood that personally identifiable information will be shared with non-City entities that will use the data for a purpose other than providing the City with a contractually agreed-upon service.

☒ The technology collects data that is personally identifiable even if obscured, de-identified, or anonymized after collection.

☐ The technology raises reasonable concerns about impacts to civil liberty, freedom of speech or association, racial equity, or social justice.

1.2 What are the potential impacts on civil liberties through the implementation of this technology?

A license plate number does not identify a specific person; rather it identifies a vehicle. However, the license plate number may be linked or associated with an identifiable person through a linkage with other information about the individual. As a result, while license plate numbers do not constitute personal information, their common affiliations and linkages with individuals constitutes a perceived risk to privacy.

1.3 What does your department define as the most important racially equitable community outcomes related to the implementation of this technology?

That all areas of Seattle are equally served by the data produced by LPR cameras. This includes:

1. Better traffic progression for travelers throughout Seattle
2. Positive environmental impact by decreasing emissions
3. Real time opportunities to make more informed trip decisions by accessing travel times from our roadside signs and the Traveler Information Web Map

1.4 What racial equity opportunity area(s) will be affected by the application of the technology?

☒ Education
☒ Community Development
☒ Health
☒ Environment
☐ Criminal Justice
☒ Jobs
☒ Housing
☐ Other

1.5 Are there impacts on:

☐ Contracting Equity
☒ Workforce Equity
☐ Other, please describe below:
☒ Immigrant and Refugee Access to Services
☐ Inclusive Outreach and Public Engagement

2.0 INVOLVE STAKEHOLDERS, ANALYZE DATA

2.1 Departmental conclusions about potential neighborhood impacts of the technology. Are the impacts on geographic areas? ☒ Yes ☐ No

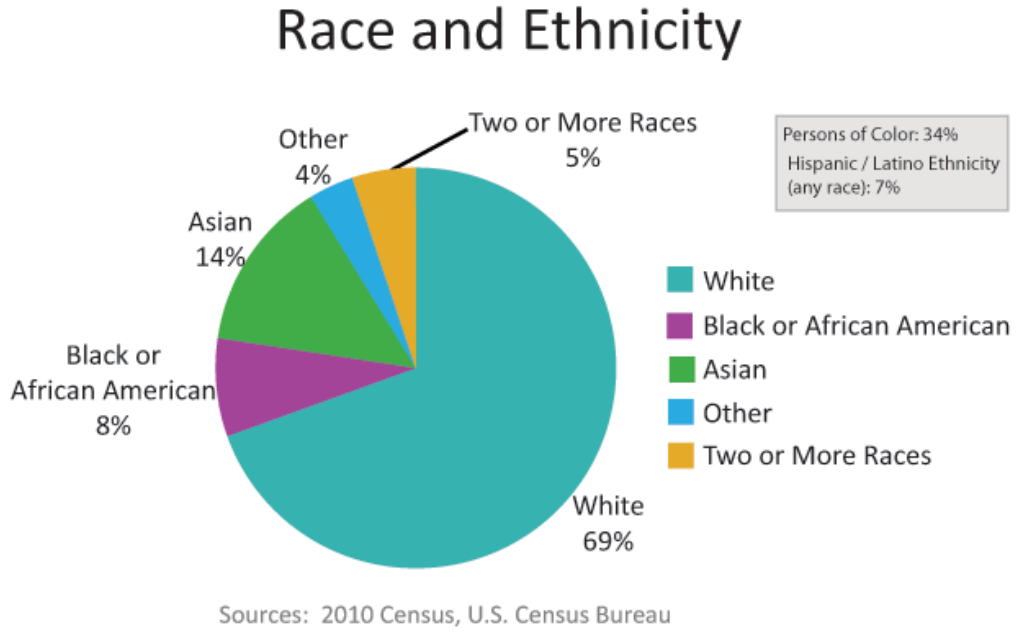
Check all neighborhoods that apply *(see map of neighborhood boundaries in Appendix A: Glossary, under "Seattle Neighborhoods"):*

☐ All Seattle neighborhoods
☒ Ballard
☒ North
☒ Northeast
☐ Central
☐ Lake Union
☒ Southwest
☒ Southeast
☒ Delridge
☒ Greater Duwamish
☐ East District
☐ King County (outside Seattle)
☐ Outside King County. Please describe:

N/A

2.2 What are the racial demographics of those living in the area or impacted by the issue? *(see Stakeholder and Data Resources here.)*

From Seattle's Office of Planning & Community Development, Race & Ethnicity Quick Statistics:



STOP: Department should complete RET questions 2.3 – 6 and Appendices B-I AFTER completing their public comment and engagement requirements.

2.3 Have you completed the following steps to engage the public? If you have not completed these steps, pause here until public outreach and engagement has been completed. (*See OCR's RET worksheet here for more information about engaging the public at this point in the process to ensure their concerns and expertise are part of analysis.*)

☐ **Create a public outreach plan.** Residents, community leaders, and the public were informed of the public meeting and feedback options via:

- ☐ Email
- ☐ Mailings
- ☐ Fliers
- ☐ Phone calls
- ☐ Social media
- ☐ Other

☐ The following community leaders were identified and invited to the public meeting(s):

- ☐ American Civil Liberties Union (ACLU)
- ☐ CARE
- ☐ Northwest Immigrant Rights
- ☐ OneAmerica
- ☐ JACL
- ☐ For Seattle Police Department only, Community Police Commissions
- ☐ Other:

[Please describe]

☐ **Engagement for Public Comment #1**

Date of meeting: [Respond here.]

Location of meeting: [Respond here.]

Summary of discussion:

[Respond here, if applicable.]

☐ Full meeting transcript, including City attendees, community leaders in attendance, and attendee demographic data, is attached as an appendix to the SIR

☐ **Engagement for Public Comment #2**

Date of meeting: [Respond here.]

Location of meeting: [Respond here.]

Summary of discussion:

[Respond here, if applicable.]

☐ Full meeting transcript, including City attendees, community leaders in attendance, and attendee demographic data, is attached as an appendix to the SIR

☐ **Engagement for Public Comment #3 (if applicable)**

Date of meeting: [Respond here.]

Location of meeting: [Respond here.]

Summary of discussion:

[Respond here, if applicable.]

☐ Full meeting transcript, including City attendees, community leaders in attendance, and attendee demographic data, is attached as an appendix to the SIR

☐ **Collect public feedback via mail and email**

Number of feedback submissions received: [Respond here.]

Summary of feedback: [Respond here.]

Open comment period: [Respond here.]

☐ Complete compilation of feedback is attached an as an appendix to the SIR

☐ **Community Technology Advisory Board (CTAB) Presentation**

Date of presentation: [Respond here,]

Summary of comments:

[Respond here.]

☐ Complete meeting minutes and comments are attached an as an appendix to the SIR

☐ Any letters of feedback by CTAB members are attached as an appendix to the SIR

2.4 What does data and conversations with stakeholders tell you about existing racial inequities that influence people's lives and should be taken into consideration when applying/implementing/using the technology? *(See OCR's RET worksheet here for more information; King County Opportunity Maps are a good resource for information based on geography, race, and income.)*

[Respond to question 2.4here.]

2.5 What are the root causes or factors creating these racial inequities? Mitigation strategies will be addressed in 4.1 and 5.3. *Examples: bias in process; lack of access or barriers; lack of racially inclusive engagement.*

[Respond to question 2.5 here.]

3.0 DETERMINE BENEFIT AND/OR BURDEN

Provide a description of any potential disparate impact of surveillance on civil rights and liberties on communities of color and other marginalized communities. Given what you have learned from data and from stakeholder involvement…

3.1 How will the technology, or use of the technology increase or decrease racial equity? What are potential unintended consequences? What benefits may result? Are the impacts aligned with your department's community outcomes that were defined in 1.0?

[Respond to question 3.1 here.]

3.2 What benefits to the impacted community/demographic may result?

[Respond to question 3.1 here.]

3.3 What are potential unintended consequences (both negative and positive potential impact)?

[Respond to question 3.1 here.]

3.4 Are the impacts aligned with your department's community outcomes that were defined in Step 1.0?

[Respond to question 3.1 here.]

4.0 ADVANCE OPPORTUNITY OR MINIMIZE HARM

Provide a mitigation plan for the impacts described in step 3.

4.1 How will you address the impacts (including unintended consequences) on racial equity? What strategies address immediate impacts? What strategies address root causes of inequity listed in 2.5? How will you partner with stakeholders for long-term positive change? If impacts are not aligned with desired community outcomes for surveillance technology (see 1a), how will you re-align your work?

Program Strategies:

[Respond here.]

Policy Strategies:

[Respond here.]

Partnership Strategies:

[Respond here.]

5.0 EVALUATE, RAISE RACIAL AWARENESS, BE ACCOUNTABLE

The following information must be provided to the CTO, via the Privacy Office, on an annual basis for the purposes of an annual report to the City Council on the equitable use of surveillance technology. For Seattle Police Department, the equity impact assessments may be prepared by the Inspector General for Public Safety.

The following information does not need to be completed in the SIR submitted to Council, unless this is a retroactive review.

5.1 Which neighborhoods were impacted/targeted by the technology over the past year and how many people in each neighborhood were impacted?

☐ All Seattle neighborhoods
☐ Ballard
☐ North
☐ NE
☐ Central
☐ Lake Union
☐ Southwest
☐ Southeast
☐ Greater Duwamish
☐ East District
☐ King County (outside Seattle)
☐ Outside King County. Please describe:

[Respond here, if applicable.]

5.2 Demographic information of people impacted/targeted by the technology over the past year…

To the best of the department's ability, provide demographic information of the persons surveilled by this technology. If any of the neighborhoods above were included, compare the surveilled demographics to the neighborhood averages and City averages.

[Respond to question 5.2 here.]

5.3 Which of the mitigation strategies that you identified in Step 4 were implemented in the past year? Specifically, what adjustments to laws and policies should be made to remedy any disproportionate impacts so as to achieve a more equitable outcome in the future.

Type of Strategy (program, policy, partnership)	**Description of Strategy**	**Percent complete of implementation**	**Describe successes and challenges with strategy implementation**

5.4 How have you involved stakeholders since the implementation/application of the technology began?

- ☐ Public Meeting(s)
- ☐ CTAB Presentation
- ☐ Postings to Privacy webpage seattle.gov/privacy
- ☐ Other external communications
- ☐ Stakeholders have not been involved since the implementation/application

5.5 What is unresolved? What resources/partnerships do you still need to make changes?

[Respond to question 5.5 here.]

6.0 REPORT BACK

Responses to Step 5 will be compiled and analyzed as part of the CTO's Annual Report on Equitable Use of Surveillance Technology.

Departments will be responsible for sharing their own evaluations with department leadership, Change Team Leads, and community leaders identified in the public outreach plan (Step 2c).

PRIVACY AND CIVIL LIBERTIES ASSESSMENT

PURPOSE

This section shall be completed after public engagement has concluded and the department has completed the Racial Equity Toolkit section above. The Privacy and Civil Liberties Assessment is completed by the Community Surveillance Working Group ("Working Group"), per the Surveillance Ordinance which states that the Working Group shall:

> "*[p]rovide to the Executive and the City Council a privacy and civil liberties impact assessment for each SIR that must be included with any departmental request for surveillance technology acquisition or in-use approval. The impact assessment shall include a description of the potential impact of the surveillance technology on civil rights and liberties and potential disparate impacts on communities of color and other marginalized communities. The CTO shall share with the Working Group a copy of the SIR that shall also be posted during the period of public engagement. At the conclusion of the public engagement period, the CTO shall share the final proposed SIR with the Working Group at least six weeks prior to submittal of the SIR to Council for approval. The Working Group shall provide its impact assessment in writing to the Executive and the City Council for inclusion in the SIR within six weeks of receiving the final proposed SIR. If the Working Group does not provide the impact assessment before such time, the Working Group must ask for a two-week extension of time to City Council in writing. If the Working Group fails to submit an impact statement within eight weeks of receiving the SIR, the department and City Council may proceed with ordinance approval without the impact statement."*

WORKING GROUP PRIVACY AND CIVIL LIBERTIES ASSESSMENT

[Assessment to be placed here.]

APPENDIX A: GLOSSARY

Accountable: (Taken from the Racial Equity Toolkit.) Responsive to the needs and concerns of those most impacted by the issues you are working on, particularly to communities of color and those historically underrepresented in the civic process.

Community Outcomes: (Taken from the Racial Equity Toolkit.) The specific result you are seeking to achieve that advances racial equity.

Contracting Equity: (Taken from the Racial Equity Toolkit.) Efforts to achieve equitable racial outcomes in the way the City spends resources, including goods and services, consultants and contracting.

DON: "Department of Neighborhoods."

Immigrant and Refugee Access to Services: (Taken from the Racial Equity Toolkit.) Government services and resources are easily available and understandable to all Seattle residents, including non-native English speakers. Full and active participation of immigrant and refugee communities exists in Seattle's civic, economic and cultural life.

Inclusive Outreach and Public Engagement: (Taken from the Racial Equity Toolkit.) Processes inclusive of people of diverse races, cultures, gender identities, sexual orientations and socio-economic status. Access to information, resources and civic processes so community members can effectively engage in the design and delivery of public services.

Individual Racism: (Taken from the Racial Equity Toolkit.) Pre-judgment, bias, stereotypes about an individual or group based on race. The impacts of racism on individuals including white people internalizing privilege, and people of color internalizing oppression.

Institutional Racism: (Taken from the Racial Equity Toolkit.) Organizational programs, policies or procedures that work to the benefit of white people and to the detriment of people of color, usually unintentionally or inadvertently.

OCR: "Office of Arts and Culture."

Opportunity Areas: (Taken from the Racial Equity Toolkit.) One of seven issue areas the City of Seattle is working on in partnership with the community to eliminate racial disparities and create racial equity. They include: Education, Health, Community Development, Criminal Justice, Jobs, Housing, and the Environment.

Racial Equity: (Taken from the Racial Equity Toolkit.) When social, economic and political opportunities are not predicted based upon a person's race.

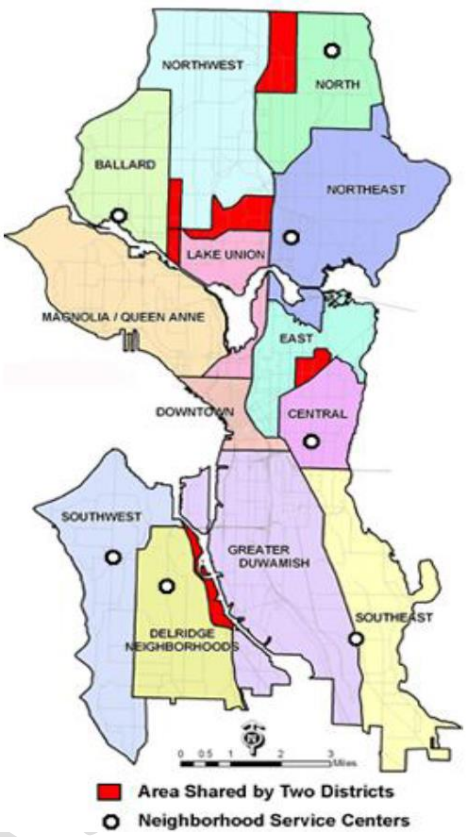
Racial Inequity: (Taken from the Racial Equity Toolkit.) When a person's race can predict their social, economic, and political opportunities and outcomes.

RET: "Racial Equity Toolkit"

Seattle Neighborhoods: (Taken from the Racial Equity Toolkit Neighborhood.) Boundaries defined for the purpose of understanding geographic areas in Seattle.

Stakeholders: (Taken from the Racial Equity Toolkit.) Those impacted by proposed policy, program, or budget issue who have potential concerns or issue expertise. Examples might include: specific racial/ethnic groups, other institutions like Seattle Housing Authority, schools, community-based organizations, Change Teams, City employees, unions, etc.

Structural Racism: (Taken from the Racial Equity Toolkit.) The interplay of policies, practices and programs of multiple institutions which leads to adverse outcomes and conditions for communities of color compared to white communities that occurs within the context of racialized historical and cultural conditions.



Surveillance Ordinance: Seattle City Council passed Ordinance 125376, also referred to as the "Surveillance Ordinance."

SIR: "Surveillance Impact Report", a document which captures the fulfillment of the Council-defined Surveillance technology review process, as required by Ordinance 125376.

Workforce Equity: (Taken from the Racial Equity Toolkit.) Ensure the City's workforce diversity reflects the diversity of Seattle.

APPENDIX B: PUBLIC COMMENT DEMOGRAPHICS AND OVERVIEW

APPENDIX C: PUBLIC MEETING NOTICE(S)

APPENDIX D: MEETING SIGN-IN SHEET(S)

APPENDIX E: MEETING TRANSCRIPT(S)

APPENDIX F: LETTERS FROM ORGANIZATIONS

APPENDIX H: EMAILS FROM THE PUBLIC

APPENDIX I: LETTERS FROM THE PUBLIC