Measuring the Prevalence of Out-of-State Vehicle Registrations among Vancouver, WA Residents

A collaborative effort of Vancouver Police Department, Neighbors on Watch (NOW) Volunteers, and Portland State University

Prepared By:  

Jaycee Elliott

♦ Crime Analyst Intern; Vancouver Police Department
♦ Graduate Student; Portland State University - Criminology and Criminal Justice Department

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PROJECT CONTRIBUTIONS

Neighbors on Watch (NOW) Volunteers

Joanita Munoz  ♦  Coordinated the NOW volunteers

Numerous NOW Volunteers  ♦  Logged over 500 hours on this project

A HUGE THANK YOU FOR ALL OF YOUR CONTRIBUTIONS!

Vancouver Police Department

Mike Lester  ♦  Assistant Chief

Jaycee Elliott  ♦  Crime Analyst Intern & Graduate Student (Portland State University Criminology and Criminal Justice Department)

Portland State University

Kris Henning, Ph.D.  ♦  Professor & Chair, Criminology and Criminal

Kimberly Kahn, Ph.D.  ♦  Assistant Professor, Psychology Department

Lee Shaker, Ph.D.  ♦  Assistant Professor, Communications Department
The Vancouver City Council recognized the need for street improvements. In an effort to fund the needed street improvements, the Street Funds Commission proposed the creation of the Vancouver Transportation Benefit District (TBD) to City Council. In December 2015, City Council approved the creation of the TBD and the imposition of a new $20 license tab renewal fee.

Revenue collected as the result of the license tab renewal fees supports transportation related construction and improvement projects approved by the TBD Board in the city of Vancouver.

In subsequent City Council meetings, concerns were raised regarding the evasion of the license tab renewal fee by residents (recently moving to Washington from another state) failing to renew their license tabs in the state of Washington. As outlined in RCW 46.16A.030(4), new Washington residents have 30 days to properly register their vehicles within the state of Washington. Failure to do so is an infraction subject to a $529 fine.

A large portion of the new residential population growth in the city of Vancouver is believed to consist of individuals moving to Washington from other states. Primarily, the continuous growth of the Portland metro area is expected to be a large contributor of new Vancouver residents migrating from Oregon.

Although these new residents are welcomed in the city of Vancouver, failure to renew their vehicle registrations with their new Washington address results in the loss of revenue from the license tab renewal fee. Prior to this project, a measure did not exist to estimate the prevalence of vehicles in Vancouver that were out of vehicle registration compliance.

Since license tab renewal is outlined through municipal codes, the Vancouver Police Department was tasked with developing a process to assess the prevalence of vehicles (owned by residents of Vancouver) that had noncompliant out-of-state vehicle registration.

In addition to measuring the prevalence of these noncompliant vehicle registrations, a courtesy flyer outlining the vehicle registration codes was created. The courtesy flyer was created to efficiently inform and persuade potentially noncompliant residents to register their vehicles while data was collected regarding the prevalence of noncompliant vehicle registrations.

This project is the culmination of effort from members of Vancouver Police Department’s Neighbors on Watch (NOW) volunteer Program, members of the Vancouver Police Department, and faculty from Portland State University.
Since the purpose of this project was to identify the prevalence of potentially noncompliant vehicle registrations among Vancouver residents, data was collected from residential neighborhoods. Fifteen residential neighborhoods were identified and selected for this project (see the map above displaying the neighborhood locations). Over the span of 9 months (August 2016 - April 2017), NOW volunteers scheduled neighborhood patrols to collect data on the license plate state of the vehicles they observed. Specifically, three pieces of data were collected for each of the fifteen neighborhoods:

- Number of Observable Vehicles with License Plates
- Number of Observable Vehicles with non-Washington License Plates (Out-of-State Registrations)
- Number of Vehicles Receiving a Courtesy Flyer Outlining Vehicle Registration Laws and Crime Prevention Techniques

### Neighborhood Patrol Schedule

<table>
<thead>
<tr>
<th>Neighborhood</th>
<th>Observation Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carter Park</td>
<td>8/29/2016</td>
</tr>
<tr>
<td>Central Park</td>
<td>10/10/2016</td>
</tr>
<tr>
<td>Evergreen Highlands</td>
<td>10/10/2016</td>
</tr>
<tr>
<td>North Garrison Heights</td>
<td>10/22/2016</td>
</tr>
<tr>
<td>Ogden</td>
<td>10/22/2016</td>
</tr>
<tr>
<td>Fircrest</td>
<td>11/12/2016</td>
</tr>
<tr>
<td>Cascade Highlands</td>
<td>11/12/2016</td>
</tr>
<tr>
<td>Mountain View</td>
<td>11/12/2016</td>
</tr>
<tr>
<td>Harney Heights</td>
<td>2/12/2017</td>
</tr>
<tr>
<td>Image</td>
<td>2/12/2017</td>
</tr>
<tr>
<td>Burnt Bridge Creek</td>
<td>2/26/2017</td>
</tr>
<tr>
<td>Fisher’s Landing East</td>
<td>3/11/2017</td>
</tr>
<tr>
<td>Fourth Plain Village</td>
<td>3/11/2017</td>
</tr>
<tr>
<td>West Minnehaha</td>
<td>4/22/2017</td>
</tr>
<tr>
<td>Rose Village</td>
<td>4/22/2017</td>
</tr>
</tbody>
</table>
Maps highlighting approved residential streets for patrolling were created to facilitate NOW patrols and mitigate the possibility of patrolling the same street more than once. A sample map of the Image neighborhood is provided above. The names of streets are denoted by black and white labels overlaying the street itself. Each street segment is uniquely labeled with a red and white number that corresponded with the data collection sheet provided to all NOW volunteers to mitigate concerns of duplicate data collection.

Pairs of NOW volunteers were assigned specific streets within a neighborhood to collect data. While collecting data, NOW volunteers stayed on public streets/sidewalks and recorded data for vehicles with definitively visible license plates. Vehicles not present or visible (e.g., vehicles parked in garages) at the time of patrol were not captured in data collection. Even though this is a limited measure of resident owned vehicles, this design was implemented to maximize data validity.

While patrolling their assigned streets, NOW volunteers placed the courtesy flyers (content of the flyer discussed on the following page) on the windshield of vehicles that had out-of-state license plates affixed to them. Since NOW volunteers stayed on public streets or sidewalks, flyers could not be delivered to vehicles parked on private property. Therefore, all vehicles with visible license plates were recorded; however, only those vehicles with out-of-state license plates that were accessible to NOW volunteers had a flyer placed on their windshield.

Once a neighborhood patrol was completed, all the NOW volunteers turned in their data collection sheets. The data on the sheets was aggregated at a neighborhood level to prepare it for analysis.
PROJECT DESIGN

We noticed that your vehicle has an out-of-state plate. If you are just visiting Vancouver we hope that you have a pleasant trip. If you live in Vancouver and your car is registered in another state you may be violating the state’s motor vehicle registration laws.

Vancouver residents must immediately acquire a Washington registration upon purchase of a new vehicle. If you move to Vancouver from outside of the state you have 30 days from your arrival to properly register your vehicle. Failure to register your vehicle is an infraction subject to a fine of $529 (RCW 46.16A.030(4)). Registration of a vehicle in another state to avoid taxes and fees is a crime punishable as a first offense by up to 364 days in jail and $1,529 in fines plus any delinquent taxes, fees and applicable assessments. (RCW 46.16A.030(6)(a)).

The state uses vehicle registration fees to support transportation-related activities such as highway development, road and bridge maintenance, and sidewalk construction. It is each citizen’s responsibility to pay a fair share of these costs to ensure everybody’s safety on our roads.

For more information on how to register your vehicle, please call 360-902-3770 or visit http://www.doi.wa.gov/vehicleregistration/licenseplates.html.

PERSUASIVE COMPLIANCE RESEARCH

Deterrence theory posits that sanctions associated with noncompliant behavior influences a person’s susceptibility to comply.¹ In order for deterrence to be effective, individuals must be aware of the sanctions associated with noncompliance and perceive that the sanctions outweigh noncompliant benefits.

Some experimental research has yielded positive results using deterrent messaging to influence tax compliance. Likewise, appealing to an individual’s morals and need to conform to social norms has also been shown to positively influence desired behaviors.¹ This is likely due to an individual’s need to gain social approval.²

In addition, findings from one study suggest that carefully crafted persuasive messages can positively effect desired voting behaviors.³ These effects were present for the immediate audience, but through social transmission, also influenced others within their social network.³

In an effort to persuade potentially noncompliant Vancouver vehicle owners to come into registration compliance, flyers were tailored with deterrent and persuasive messaging (see flyer text above). First, the flyers recognized that not all out-of-state vehicles are out of registration compliance and immediately acknowledges the potential of Vancouver visitors receiving flyers. Then, the flyers had four main components (mindful of the persuasive compliance research) to influence vehicle registrations among potentially noncompliant Vancouver residents:

- Recognize potential noncompliance and remove feeling of anonymity
- Inform the vehicle owner of the registration law
- Outline potential sanctions for noncompliance
- Appeal to social conformity by explaining the benefits and individual contributions stemming from compliance

Finally, resources were provided for people to learn about the vehicle registration process.

In this section, citywide findings are expressed as the aggregation of findings from all 15 residential neighborhoods patrolled by NOW volunteers.

The chart above presents the findings for the citywide distribution of vehicles that had Washington state license plates or license plates from another state. A total of 17,395 vehicles were observed citywide. Of all of the vehicles observed, 1,679 (9.7%) had out-of-state plates. NOW volunteers were able to place flyers on the windshields of 590 (3.4%) of the vehicles observed. This equates to 35.1% of the vehicles observed with out-of-state plates.

The chart on the following page displays the percent of vehicles within a neighborhood that had out-of-state license plates and the total number of vehicles observed by NOW volunteers in the neighborhood.

The neighborhood with the highest percentage of out-of-state license plates was Fourth Plain Village (16.8%). Six other neighborhoods (Carter Park, Ogden, Mountain View, Harney Heights, Image, and Central Park) had percentages of out-of-state vehicles above the citywide percentage of out-of-state vehicles (9.7%). Burnt Bridge Creek had the greatest number of out-of-state vehicles observed (224 vehicles; 13.3% of out-of-state vehicles observed). However, Burnt Bridge Creek also had the greatest number of vehicles observed (2,819 vehicles; 16.2% of total vehicles observed). Since more vehicles were observed, it is likely that more out-of-state vehicles would be observed. Although it had the greatest number of out-of-state vehicles, the percentage of out-of-state vehicles in the neighborhood was only 7.9%.
This project was designed following raised concerns regarding the potential for lost revenue from license tab renewals. However, no objective measure existed detailing potentially non-compliant vehicle registrations related to the state of registration. This project addressed this concern by conducting NOW volunteer patrols within neighborhoods measuring the number of out-of-state vehicles observed and placing flyers on potentially noncompliant vehicles. The most profound finding arising from this project is the low percentage (9.7%) of potentially noncompliant vehicle registrations among Vancouver residents, from August 2016 to December 2016, $1.24 million of revenue was raised for the Transportation Benefit District from license plate tab renewal fees. With a potential noncompliance rate of 9.7% for vehicle registrations, potential lost revenue totals $132,474 (annual potential lost revenue equated to $317,937). Even though the findings inform the potential prevalence of noncompliant vehicle registrations among Vancouver residents, a few considerations must be discussed. First, the project design included efforts to minimize the potential for false positive observations (compliant out-of-state vehicles), but the rate of false positives cannot be determined for this project. Next, the vehicles observed were limited to those vehicles that were visible to NOW volunteers. Vehicles parked in closed garages, under car covers, or with covered license plates were unable to be observed. In addition, multi-unit housing buildings (e.g. apartment complex parking lots) were not patrolled by NOW volunteers. Finally, the feasibility of this project was dependent upon conveniently scheduling the patrol dates and times for NOW volunteers. Therefore, variation in the patrol dates and times may have influenced the number of vehicles able to be observed.

Analyses regarding the effect that the flyers had on vehicle registrations were not feasible due to a low rate of vehicles receiving flyers. Although worth discussion and consideration, the limitations of this project are not expected to bear much influence on the findings. It is expected that the ceiling for noncompliant vehicle registrations is 9.7%, but could be lower.
With potential lost revenue totaling $132,474 for the first five months of revenue collection (annual potential lost revenue equated to $317,937), efforts to persuade vehicle registration compliance should be considered. The current project design was intended to measure the prevalence of potentially noncompliant vehicle registrations among Vancouver residents. In an effort to be efficient, courtesy flyers were placed on vehicles with out-of-state plates in an effort to persuade the vehicle owners to come into vehicle registration compliance. Having provided a measure of potential vehicle registration noncompliance among Vancouver residents, efforts to continue to persuade registration compliance can deviate from the current project design.

Despite not being able to measure the effect that the flyer had on vehicle registrations, the flyer (specifically its message) can be distributed through multiple outlets to continue to persuade potentially noncompliant residents. Noncompliant residents may be unaware of the registration laws and solely informing them of vehicle registration may prove beneficial. Some of the traditional information distribution outlets include:

- Posting the flyer message on the City of Vancouver website
- Attaching the flyer message to utility bills
- Distributing the flyers at neighborhood association meetings (for association members to distribute to neighbors)
- Posting the flyers on bulletin boards or newsletters of multi-unit housing complexes
- Having volunteers flyer out-of-state vehicles in areas with large volumes of vehicles (e.g., Farmer’s Market, Vancouver Mall, etc.)
- Having local news outlets such as radio stations or The Columbian discuss vehicle registration and the allocation of funds from the license plate tab renewal fee

In addition to traditional distribution streams, distribution through social media provides numerous benefits:

- Costs associated with social media posts are minimal
- Flyer message can be enhanced with images, videos, or other information that provide up to date information on the Transportation Benefit District projects
- Bond et al. (2012) discuss the diffusion of benefits that can occur when a persuasive political mobilization message is posted on social media. The initial audience that is persuaded to comply with the desired behavior can effortlessly transmit the message through their social network furthering the reach of the message. This diffusion of benefits may exist among Vancouver residents on social media posts (especially if they are enhanced with photos or videos) related to the license plate tab fees and the Transportation Benefit District.

Potential social media websites to distribute information include:

- Nextdoor
  ◦ Neighborhood association pages
- Facebook
  ◦ City of Vancouver page
  ◦ Vancouver Police page
  ◦ Other Vancouver group pages