AN INCENTIVE-BASED TEEN DRIVER SMARTPHONE APP: RESULTS OF 2017 PILOT PROJECT

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OVERVIEW

- Teens in the Driver Seat® Program context
- Description of smartphone app
- Purpose & framework of analysis
- Data gathered during pilot project
- Conclusions
- Next Steps
TDS PROGRAM

- Peer-to-peer program started in Texas in 2002
- Active program elements for Junior High, High School and College
- Reached 38 states with High School P2P program
- Smartphone app requested by Teen & College Student Advisory Boards
HOW THE APP WORKED

HOW IT WORKS

1. Tap to Start Trip
   Start trip, every time you drive.

2. Drive
   Drive undistracted to your destination.

3. Tap to End Trip
   End trip once you arrive safely.
INCENTIVES

Amazon gift cards & multiple grand prizes during peak incentives phase
In this study, distraction refers to the use of smartphone while driving

Can only detect activity in the smartphone on which the app is activated

No data for trips when the users did not press “start trip” at the beginning of their trips
DATA COLLECTION PHASE

Pre-incentive conditions
March 1 to April 10, 2017

All incentives in place
April 10 to April 30, 2017

Post-incentives with school session
May 1 to May 31, 2017

Post-incentives with school out of session
June 1 to June 30, 2017
# PARTICIPANTS

<table>
<thead>
<tr>
<th>Phase</th>
<th>Total Users</th>
<th>Gender Distribution</th>
<th>Age Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Pre Incentive</td>
<td>123</td>
<td>43</td>
<td>80</td>
</tr>
<tr>
<td>Incentive</td>
<td>181</td>
<td>63</td>
<td>118</td>
</tr>
<tr>
<td>Post-Incentive w/School</td>
<td>96</td>
<td>26</td>
<td>70</td>
</tr>
<tr>
<td>Post-Incentive no School</td>
<td>35</td>
<td>13</td>
<td>22</td>
</tr>
</tbody>
</table>

Total 299 Users from March to June

4,103 Total Trips and 45,322 Miles Traveled
WHO IS ENGAGED IN DISTRACTED DRIVING?  
(MARCH TO JUNE, 2017)

Percentage of Drivers Using Phone While Driving
Male vs Female by Age Group

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Percentage of Drivers Using Phone While Driving</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;25</td>
<td>Female: 0%</td>
</tr>
<tr>
<td>19-24</td>
<td>Female: 15%</td>
</tr>
<tr>
<td>14-18</td>
<td>Female: 20%</td>
</tr>
</tbody>
</table>

% of Drivers Using Phone while Driving
WHAT DAYS OF THE WEEK DO PEOPLE USE THEIR PHONE? (MARCH TO JUNE, 2017)

Distribution of Trips by Day of Week

<table>
<thead>
<tr>
<th>Days of Week</th>
<th>% of Total Trips</th>
<th>% of Distracted Trips</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saturday</td>
<td>16%</td>
<td></td>
</tr>
<tr>
<td>Sunday</td>
<td>14%</td>
<td></td>
</tr>
<tr>
<td>Monday</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td>Tuesday</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Wednesday</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Thursday</td>
<td>8%</td>
<td></td>
</tr>
<tr>
<td>Friday</td>
<td>14%</td>
<td></td>
</tr>
</tbody>
</table>

Percent
WHAT TIME OF DAY DO PEOPLE USE THEIR PHONE?
(MARCH TO JUNE, 2017)

Distribution of Trips by Hour of Day

Hour of Day:
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23

Percent:
0% 2% 4% 6% 8% 10% 12% 14%
How long into the trip do drivers use their smartphones? (March to June, 2017)
HOW FAST ARE PEOPLE GOING WHEN THEY USE THEIR SMARTPHONES? (MARCH TO JUNE, 2017)

![Graph showing speed during distraction]

The graph illustrates the percentage of distracted trips at different speed ranges. The categories include:
- 0 to 5 Mph
- 6 to 20 Mph
- 21 to 50 Mph
- 50 to 70 Mph
- >70 Mph

The data indicates that the majority of distracted trips occur at speeds of 0 to 5 Mph, with a significant drop as the speed increases.
WHERE DO PEOPLE USE THEIR SMARTPHONES?  
(MARCH TO JUNE, 2017)

Distraction by Age & Road Type

- Interstate
- Principal Arterial - Other
- Minor Arterial
- Major Collector
- Minor Collector
- Local
- Local streets or Private Driveways

% Age 14 to 18  % Age 19 to 24  % Age Greater 25
DISTRACTION PATTERN IN PRE INCENTIVE VS INCENTIVE PERIOD

% Distracted Trips across Male and Female

- Male: Pre Incentive vs Incentive
- Female: Pre Incentive vs Incentive
DISTRACTION PATTERN IN PRE INCENTIVE VS INCENTIVE PERIOD

% Distracted Trips across Age Groups

- 14-18
- 19-24
- >25

Pre Incentive  Incentive
## IMPACT OF INCENTIVES

A chi-square test was conducted to compare the distraction pattern in pre-incentive and incentive period

<table>
<thead>
<tr>
<th>Time Period/Phase</th>
<th>Variable/Demographic</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-incentive vs. incentive</td>
<td>Entire user group</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Pre-incentive vs. incentive</td>
<td>Females</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Pre-incentive vs. incentive</td>
<td>25 years old or greater</td>
<td>&lt;0.05</td>
</tr>
</tbody>
</table>
CONCLUSION

- The pilot study adds valuable insights into the scope and characteristics of distracted drivers (youth and adults)

- Incentives appeared to have significant positive influence on the frequency of distracted driving

- Future study will be conducted to avoid the sample bias and provide more insights into behaviors & impact of incentives
Safest Young Driver App, 2018

- Partnership with Cambridge Mobile Telematics
- Launched April 16, 2018 w/similar incentive framework
- Runs in background & gauges multiple factors
- Will run analysis through July 2018
Questions ??

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