

## Establishing a Framework for Communicating Map Updates to Mapping Companies: Framework Table

January 2022

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This document includes the framework table from the final report for the ENTERPRISE Pooled Fund Study project, [Establishing a Framework for Communicating Department of Transportation \(DOT\) Map Updates to Mapping Companies](#).

### Background

Many transportation agencies would like to provide map updates (e.g., road alignment changes, road closures, detour routes) to mapping/navigation companies (e.g., Waze, Google, Apple, TomTom, HERE Technologies), however the process for communicating this information is not consistent between the companies and often unknown to DOTs. The ENTERPRISE Pooled Fund Study conducted this project, *Establishing a Framework for Communicating Department of Transportation (DOT) Map Updates to Mapping Companies*, to develop a consistent communication approach for providing transportation agency map updates to mapping/navigation companies that utilize DOT-generated data for various applications such as route guidance. Communicating these map updates aims to improve the accuracy of information disseminated through traveler information mechanisms (e.g., mobile applications and in-car navigation systems).

### Project Approach and Framework

To accomplish the project objective a survey was distributed to DOTs to document the process used by those agencies that have provided map updates to mapping/navigation companies. Interviews were then conducted with select mapping/navigation companies to document their process for receiving map updates from DOTs to update their digital maps. A webinar was held with ENTERPRISE members, survey respondents, and mapping/navigation companies to gather additional input on the process. Based on the information gathered from the survey, webinar, and interviews a framework was developed to assist DOTs as they provide map updates to select mapping/navigation companies. The steps for a DOT to submit a map change follow a similar 5-step process overall, however the details within each process vary by each mapping/navigation company, therefore a separate framework was developed for the following companies and is included in Table 1 on the following pages.

- HERE Technologies
- TomTom
- Waze
- TrafficCast
- Bing
- Google
- Apple
- MapQuest
- Inrix

*NOTE: The final project report, [Establishing a Framework for Communicating Department of Transportation \(DOT\) Map Updates to Mapping Companies](#), includes additional information and details on the Project Approach and Framework Table.*

**Table 1 - Summary of Steps 1-5 by Mapping/Navigation Company**

Company	Step 1: DOT Requests to be an Authoritative Source	Step 2: DOT Identifies Map Update	Step 3: DOT Prepares Map Update Request	Step 4: DOT Submits Request	Step 5: DOT Confirms Change has been Made
HERE Technologies	Email: Derek Barthel: <a href="mailto:derek.barthel@here.com">derek.barthel@here.com</a>	<p><i>PERMANENT changes accepted:</i></p> <ul style="list-style-type: none"> <li>• Road alignment change</li> <li>• Road name or number change</li> <li>• System change (e.g., state route to local route)</li> <li>• New road</li> <li>• Permanent road closure</li> <li>• Updates on HOV/HOT lanes</li> <li>• Speed limit change</li> <li>• Truck weight restrictions (non-seasonal, permanent)</li> <li>• Height/clearance restrictions,</li> <li>• Change in address points (e.g., if 18 new roads, also 200 new addresses)</li> </ul>	<p><i>AUTOMATED</i></p> <ul style="list-style-type: none"> <li>- API</li> </ul> <p><i>MANUAL</i></p> <ul style="list-style-type: none"> <li>- .shp or .gpd files</li> </ul>	<p><i>PERMANENT (in Priority Order)</i></p> <ol style="list-style-type: none"> <li>1. Direct edit in Map Creator (editing tool to manually edit a place or edit a road for minor updates): <a href="https://mapcreator.here.com/">https://mapcreator.here.com/</a> Map Creator Basics (help page for Map Creator): <a href="https://mapcreator.here.com/2021.11.01/help/">https://mapcreator.here.com/2021.11.01/help/</a></li> <li>2. Email for region contact and to check if request is on the current priority roadmap of updates HERE is making: <ul style="list-style-type: none"> <li>- Derek Barthel: <a href="mailto:derek.barthel@here.com">derek.barthel@here.com</a></li> <li>- Alonso Victal: <a href="mailto:alonso.victal@here.com">alonso.victal@here.com</a></li> </ul> </li> <li>3. Upload data to the Supplier Portal (onboard portal for several changes at once: <a href="https://upload.here.com/">https://upload.here.com/</a></li> </ol>	Link to live map: <a href="https://wego.here.com">https://wego.here.com</a>
		<p><i>TEMPORARY changes accepted:</i></p> <ul style="list-style-type: none"> <li>• Road closure (e.g., due to work zones, major crashes, flooding)</li> <li>• Posted detour route</li> <li>• Roadwork event (presence of roadwork)</li> <li>• Speed limit changes for work zones</li> <li>• Lane closures</li> <li>• Planned construction</li> <li>• Planned closure</li> <li>• Seasonal truck restrictions (e.g., width, weather-related)</li> </ul>		<p><i>TEMPORARY (in Priority Order)</i></p> <ol style="list-style-type: none"> <li>1. Direct edit in Map Creator (editing tool to manually edit a place or edit a road for minor updates): <a href="https://mapcreator.here.com/">https://mapcreator.here.com/</a> Map Creator Basics (help page for Map Creator): <a href="https://mapcreator.here.com/2021.11.01/help/">https://mapcreator.here.com/2021.11.01/help/</a></li> <li>2. Email for region contact: <ul style="list-style-type: none"> <li>- Derek Barthel: <a href="mailto:derek.barthel@here.com">derek.barthel@here.com</a></li> <li>- Alonso Victal: <a href="mailto:alonso.victal@here.com">alonso.victal@here.com</a></li> </ul> </li> </ol>	

Company	Step 1: DOT Requests to be an Authoritative Source	Step 2: DOT Identifies Map Update	Step 3: DOT Prepares Map Update Request	Step 4: DOT Submits Request	Step 5: DOT Confirms Change has been Made
TomTom	Email: - Peter King: <a href="mailto:peter.king@tomtom.com">peter.king@tomtom.com</a> - Brandy Boyle: <a href="mailto:Brandon.boyle@tomtom.com">Brandon.boyle@tomtom.com</a> - Rob Hoyler: <a href="mailto:Robert.hoyler@tomtom.com">Robert.hoyler@tomtom.com</a>	<p><i>PERMANENT changes accepted:</i></p> <ul style="list-style-type: none"> <li>• Road alignment change</li> <li>• Road name or number change</li> <li>• System change (e.g., state route to local route)</li> <li>• New road</li> <li>• Permanent road closure</li> <li>• Updates on HOV/HOT lanes</li> <li>• Speed limit change</li> <li>• Truck weight restrictions (non-seasonal, permanent)</li> <li>• Height/clearance restrictions,</li> </ul> <p><i>TEMPORARY changes accepted:</i></p> <ul style="list-style-type: none"> <li>• Road closure (e.g., due to work zones, major crashes, flooding)</li> <li>• Posted detour route</li> <li>• Roadwork event (presence of roadwork)</li> <li>• Speed limit changes for work zones</li> <li>• Lane closures</li> <li>• Planned construction</li> <li>• Planned closure</li> <li>• Seasonal truck restrictions (e.g., width, weather-related)</li> </ul>	<p><i>AUTOMATED</i></p> <ul style="list-style-type: none"> <li>- API</li> <li>- Data Feed (XML or KML)</li> </ul> <p><i>MANUAL</i></p> <ul style="list-style-type: none"> <li>- .shp or geodatabase files</li> </ul>	<p><i>PERMANENT (in Priority Order)</i></p> <ol style="list-style-type: none"> <li>1. Automated</li> <li>2. Email request to             <ul style="list-style-type: none"> <li>- Peter King: <a href="mailto:peter.king@tomtom.com">peter.king@tomtom.com</a></li> <li>- Brandy Boyle: <a href="mailto:Brandon.boyle@tomtom.com">Brandon.boyle@tomtom.com</a></li> <li>- Rob Hoyler: <a href="mailto:Robert.hoyler@tomtom.com">Robert.hoyler@tomtom.com</a></li> </ul> </li> <li>3. MapShare Reporter (tool to submit permanent base map changes for specific locations, not ideal for submitting bulk changes: <a href="https://help.tomtom.com/hc/en-us/articles/360013960619-About-MapShare-reporter">https://help.tomtom.com/hc/en-us/articles/360013960619-About-MapShare-reporter</a>)</li> </ol> <p><i>TEMPORARY (in Priority Order)</i></p> <ol style="list-style-type: none"> <li>1. Automated</li> <li>2. Email request to:             <ul style="list-style-type: none"> <li>- Peter King: <a href="mailto:peter.king@tomtom.com">peter.king@tomtom.com</a></li> <li>- Brandy Boyle: <a href="mailto:Brandon.boyle@tomtom.com">Brandon.boyle@tomtom.com</a></li> <li>- Rob Hoyler: <a href="mailto:Robert.hoyler@tomtom.com">Robert.hoyler@tomtom.com</a></li> </ul> </li> <li>3. Road Event Reporter (tool to quickly input planned temporary closures and unplanned emergency road closures): <a href="https://www.tomtom.com/products/road-event-reporter/">https://www.tomtom.com/products/road-event-reporter/</a></li> </ol>	<p>Link to route planner map: <a href="https://mydrive.tomtom.com/">https://mydrive.tomtom.com/</a></p>

Company	Step 1: DOT Requests to be an Authoritative Source	Step 2: DOT Identifies Map Update	Step 3: DOT Prepares Map Update Request	Step 4: DOT Submits Request	Step 5: DOT Confirms Change has been Made
Waze	Join <u>Waze for Cities</u> <sup>1</sup>	<i>PERMANENT Changes</i> Only road name, road number change, or permanent road closure accepted. All other changes through <u>Waze Volunteers</u> <sup>2</sup> .	AUTOMATED - <u>Waze for Cities</u> <sup>1</sup> (XML or JSON)	<i>PERMANENT (in Priority Order)</i> 1. Automated – <u>Waze for Cities</u> <sup>1</sup> 2. Manual – <u>Waze Volunteers</u> <sup>2</sup>	Link to map: <a href="https://www.waze.com/live-map">https://www.waze.com/live-map</a>
		<i>TEMPORARY Changes</i> Only road closure, roadwork event, planned construction, planned closure, and snowplows accepted. All other changes through <u>Waze Volunteers</u> <sup>2</sup> .	MANUAL - Coordinate with <u>Waze Volunteers</u> <sup>2</sup>	<i>TEMPORARY (in Priority Order)</i> 1. Automated – <u>Waze for Cities</u> <sup>1</sup> 2. Manual – <u>Waze Volunteers</u> <sup>2</sup> 3. Direct edit in Waze Map Editor <sup>3</sup>	
<p><sup>1</sup><b>Waze for Cities</b> (<a href="https://www.waze.com/wazeforcities">https://www.waze.com/wazeforcities</a>): Signed partnership for sharing among partners, allows direct access to make map updates, and collaboratively address issues.</p> <p><sup>2</sup><b>Waze Volunteers</b> (<a href="https://support.google.com/waze/partners/answer/7237974?hl=en">https://support.google.com/waze/partners/answer/7237974?hl=en</a>): Designated volunteers who edit the map with elevated permissions. Waze partners can coordinate with Waze volunteers on temporary or permanent changes.</p> <p><sup>3</sup><b>Waze Map Editor</b>: Must be a Waze for Cities Partner. DOT staff can make manual updates for</p> <ul style="list-style-type: none"> <li>Road closures <a href="https://waze.medium.com/sharing-road-closures-to-help-reroute-waze-drivers-9ee2ac1c0459">https://waze.medium.com/sharing-road-closures-to-help-reroute-waze-drivers-9ee2ac1c0459</a>.</li> <li>Planned traffic event (e.g., major construction, special events) <a href="https://waze.medium.com/submitting-planned-traffic-events-to-alert-drivers-of-closures-1b66852be42">https://waze.medium.com/submitting-planned-traffic-events-to-alert-drivers-of-closures-1b66852be42</a></li> <li>Incident Data (e.g., flooding, ice, object in roadway) <a href="https://waze.medium.com/exchanging-incident-data-to-improve-roadway-safety-1d745312b2ba">https://waze.medium.com/exchanging-incident-data-to-improve-roadway-safety-1d745312b2ba</a></li> </ul>					
TrafficCast	Unknown	Incident or Traffic Update	Email to: <a href="mailto:ntoc_list@trafficcast.com">ntoc_list@trafficcast.com</a>		Link to TomTom map: <a href="https://mydrive.tomtom.com/">https://mydrive.tomtom.com/</a>  <i>NOTE: TomTom provides the base map for TrafficCast.</i>

Company	Step 1: DOT Requests to be an Authoritative Source	Step 2: DOT Identifies Map Update	Step 3: DOT Prepares Map Update Request	Step 4: DOT Submits Request	Step 5: DOT Confirms Change has been Made
Bing	Unknown	<ul style="list-style-type: none"> <li>- Roads</li> <li>- Address</li> <li>- City</li> <li>- Neighborhood</li> <li>- Country/Region/County</li> <li>- Landform</li> <li>- Waterbody</li> <li>- Bridge</li> <li>- Airport</li> <li>- Imagery</li> <li>- Something else</li> </ul>	<p>Select “Feedback” on Bing Map in the lower right corner (<a href="https://www.bing.com/maps">https://www.bing.com/maps</a>)</p> <p>Select “Report a Map Problem”</p> <ul style="list-style-type: none"> <li>• Drag a pushpin to the location of the issue on the map</li> <li>• Describe the problem area, specific issue, and more about the problem</li> <li>• Select “Send” the request</li> </ul>		<p>Link to map: <a href="https://www.bing.com/maps">https://www.bing.com/maps</a></p> <p><i>NOTE: TomTom provides the base map for Bing</i></p>
Google	Unknown process	<ul style="list-style-type: none"> <li>- Closures</li> <li>- Missing address</li> <li>- Missing place</li> <li>- Missing road</li> <li>- Wrong information</li> </ul>	<p>Email closures to: <a href="mailto:closures@google.com">closures@google.com</a></p> <p>Select “Send Feedback” on Google Map in the lower right corner (<a href="https://maps.google.com">https://maps.google.com</a>)</p> <ul style="list-style-type: none"> <li>• Missing address – add details about an address and where it appears on the map</li> <li>• Missing place – add a business or landmark</li> <li>• Missing road – add a road</li> <li>• Wrong information – fix wrong info about businesses, places, or roads</li> </ul>		<p>Link to map: <a href="https://maps.google.com">https://maps.google.com</a></p>

Company	Step 1: DOT Requests to be an Authoritative Source	Step 2: DOT Identifies Map Update	Step 3: DOT Prepares Map Update Request	Step 4: DOT Submits Request	Step 5: DOT Confirms Change has been Made
Apple	No formal method	<ul style="list-style-type: none"> <li>- Map Labels (rename road, businesses, or places)</li> <li>- Transit (schedules, stations, and line info)</li> <li>- Accident (Report accidents near you)</li> <li>- Hazard (Report hazards near you)</li> <li>- Speed Check (Report speed checks)</li> </ul>	<p>With an Apple device.</p> <ul style="list-style-type: none"> <li>• Launch Apple maps from your device.</li> <li>• Click on the Information button (“i” in a circle).</li> <li>• Select “Report an Issue” and add issue details. NOTE for submitting multiple or complex issues, send an email to: <a href="mailto:maps_support@apple.com">maps_support@apple.com</a>. <ul style="list-style-type: none"> <li>- Select location</li> <li>- Option for some issue types to add a photo</li> <li>- Option to add additional information and comments</li> <li>- Select “submit”</li> </ul> </li> </ul> <p>Without an Apple device:</p> <ul style="list-style-type: none"> <li>• Send an email to: <a href="mailto:maps_support@apple.com">maps_support@apple.com</a></li> </ul>		<p>Link to map: <a href="https://www.apple.com/maps">https://www.apple.com/maps</a></p>
MapQuest	TomTom provides the base map for MapQuest. DOTs may follow TomTom’s process for becoming an authoritative source and submitting map updates.	<ul style="list-style-type: none"> <li>- Residential Map Error</li> <li>- Error in MapQuest’s Directions</li> </ul>	<p>Go to “How Do I Report a Residential Map Error or an Error in MapQuest’s Directions?” (<a href="https://help.mapquest.com/hc/en-us/articles/202903380--How-Do-I-Report-a-Residential-Map-Error-or-an-Error-in-MapQuest-s-Directions-">https://help.mapquest.com/hc/en-us/articles/202903380--How-Do-I-Report-a-Residential-Map-Error-or-an-Error-in-MapQuest-s-Directions-</a>), enter error details and submit.</p>		<p>Link to map: <a href="https://www.mapquest.com/">https://www.mapquest.com/</a></p>

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INRIX	Unknown	Closure or Map Edit	Closures Email: <a href="mailto:incidentsupport@inrix.com">incidentsupport@inrix.com</a>  Map Edits Email: <a href="mailto:support@inrix.com">support@inrix.com</a>		Subscribe to an <a href="https://iq.inrix.com/?utm_source=Google%20Paid%20Search&amp;utm_medium=cpc&amp;utm_campaign=Search_Brand_Product_INRIX_IQ">INRIX IQ Account</a> (https://iq.inrix.com/?utm_source=Google%20Paid%20Search&utm_medium=cpc&utm_campaign=Search_Brand_Product_INRIX_IQ)
	NOTE: HERE Technologies provides Traffic Message Channel segment data to INRIX				