

Destination Signs

Training materials

Last Updated:

mlevachova, September, 2021

Created by: *ggando*



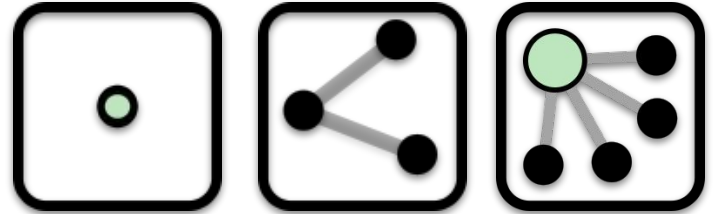
Agenda

- **Objective**
- **Project Scope**
- **Road Elements**
- **Project scenarios**
- **Editing instructions**
- **Useful links**



Objective

Gain an understanding of how to read and edit destinations in OSM.



Project Scope

Highway exit signs indicate where a vehicle is allowed to exit the freeway. This is a link road that is connecting the freeway and an arterial road. The link road should be tagged along with the node where the exit begins. This node is the start of the link road exiting a freeway. Both features need to be mapped to indicate a freeway exit.



Use [Exit and Destination Signs](#) for more information

Road elements

Freeway before motorway junction



Road segment. We add information **only** to segment near node

When Freeway crosses the destination sign, specific information on the sign describes the future behavior of traffic lanes. The number of lanes and exit geometry are described by satellite imagery.

- The **lanes=*** tag - number of traffic lanes.
- The **turn:lanes=*** tag - turn markings for individual lanes. Value starting with the left most lane, ending with the right most and separated with a | (vertical bar).
- The **destination:lanes=*** tag - destination of each lane. Usually, leftmost and rightmost lanes are described by the exit signs. Each value separated with a | (vertical bar).

Motorway Junction (Node)

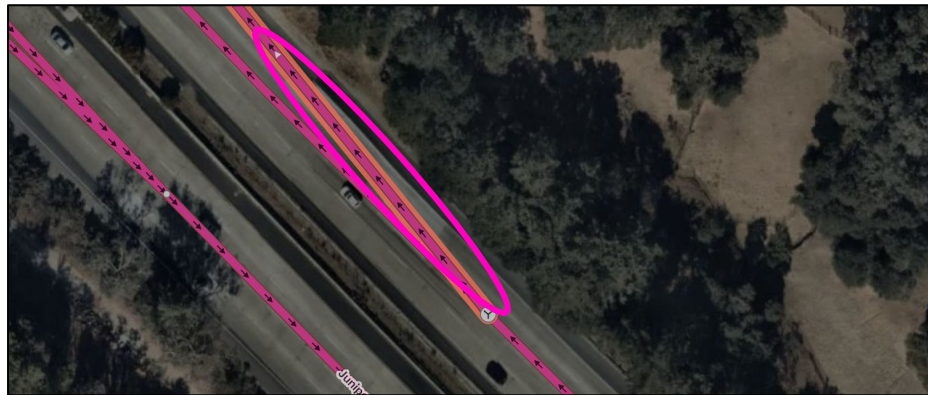


Motorway Junction. Don't forget check necessary tags

When a link road deviates from a way for an exit, the node where the link road starts is tagged to indicate the point of the road changes. The node will only need two tags to identify an exit. The tag **highway=motorway_junction** is used to indicate the type of highway feature. This tag is used for *any* type of link road when it is needed to indicate an exiting or splitting from another link way.

- the **ref=*** tag is used to indicate the exit number.
- If no exit number can be verified through open source imagery, then the tag **noref=yes** should be tagged

Motorway Link (Way)

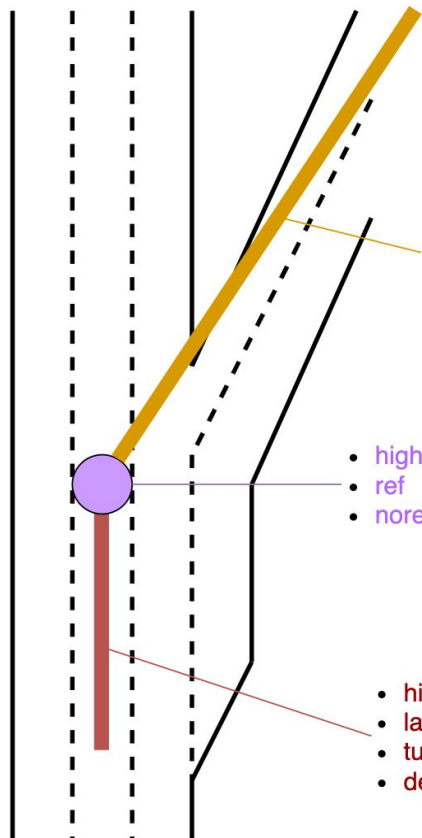


Link segment. We add information **only** to segment near node

The first link road should include all tags necessary with the information available for the destination and exit. The highway link type will be indicated in the **highway=*_link** tag, and the **oneway=yes** tag that indicates the link road is one way. In rare cases a link road will be tagged as **oneway=no** if it is a bi-directional road.

- The **junction:ref=*** tag - the exit number for the way.
- The **destination=*** tag - the name of the destination the motorway junction is exits to.
- The **destination:ref=*** tag - used if the destination includes a route marker
- The **destination:ref:to=*** tag - used if the destination includes a 'TO' destination (proceeding destination in an exit's sign)
- The **destination:street=*** tag - the type of road instead (in some states, this tag can only be used when the Destination Sign has street names that have small character size)

Motorway destination tagging scheme



- **highway=motorway_link**
- **destination**
- **destination:to**
- **destination:ref**
- **destination:ref:to**
- **junction:ref**

- **destination:street***
- **destination:street:to***

The **destination:street** tag can only be used when the *Destination Sign* has destination names with different character sizes (**smaller than other**).
In the **destination:lanes** tag these destinations should have the last position for the related lanes.

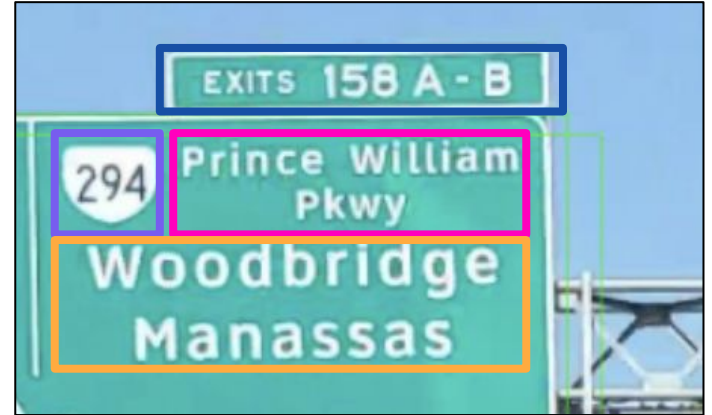
- **highway=motorway_junction**
 - **ref**
 - **noref**
- We use **only one** tag **ref/noref**

- **highway=motorway**
 - **lanes**
 - **turn:lanes**
 - **destination:lanes**
- Don't forget check another tags with **:lanes**

**This tag can only be used when the Destination Sign has street names that have the smallest character size*

Destination Tags in Scope

Key	Value	Description
junction:ref	*	Exit number
destination	*	Toward direction
destination:ref	*	branch route number [route direction]
destination:street	*	small toward street-direction



Typical destination sign

Use **Guide Signs Categories** for a better understanding of signs in the USA

Project scenarios

The Destination Science project is subdivided into 2 scenarios



Adding tags to segments:

- *Have GT photo and mark detection*
- *No GT photos, but sign detectors*

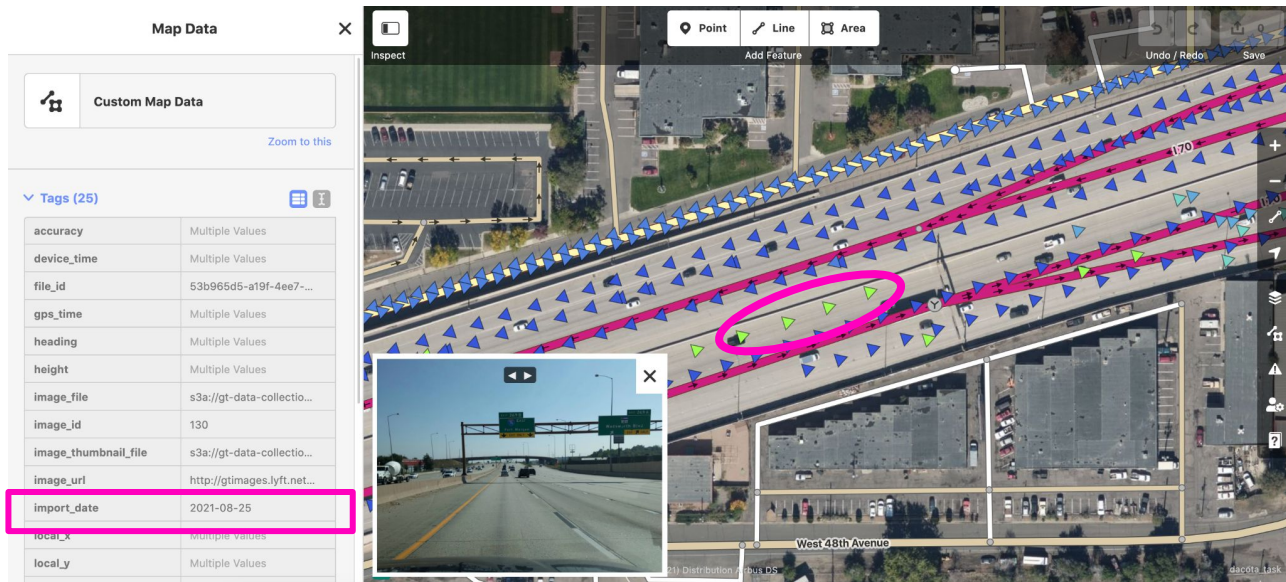


Removing tags to segment:

- *Have GT photo, but no mark detection*
- *No GT photos and sign detectors*

Scenario for adding tags

1. Open Proposed in task GT or Mapillary images **(must be no older than 6 months)** from the farthest image from the exit to the nearest one at a distance of 20-50 meters from each other.
 - a. If a task has GT images and such images older than images available in OSM from street-level providers, apply ***newer_external_imagery*** label



The screenshot shows the 'Map Data' editor interface. On the left, there is a 'Custom Map Data' section with a 'Zoom to this' link. Below it is a 'Tags (25)' section with a table of tags. The 'import_date' tag is highlighted with a pink box. On the right, there is a map view showing a highway with a pink line and blue triangles. A pink oval highlights a green triangle on the map. An inset image shows a street-level view of the highway.

Tag	Value
accuracy	Multiple Values
device_time	Multiple Values
file_id	53b965d5-a19f-4ee7-...
gps_time	Multiple Values
heading	Multiple Values
height	Multiple Values
image_file	s3a://gt-data-collectio...
image_id	130
image_thumbnail_file	s3a://gt-data-collectio...
image_url	http://gtimages.lyft.net...
import_date	2021-08-25
local_x	Multiple Values
local_y	Multiple Values

Check **green** GT-images in Editor (the newest photos) and don't forget pay attention to "import date"

2. View images to make sure that there are Destination or Exit Signs on them.

3. If the signs were found in the images, check the information on the signs with the values of the tags with destination and ref suffixes and prefixes on the highlighted in task segments (motorway, junction node, linkway(s))

- a. *If the information on the signs and in the tag values does not match, add the tag value according to the information on the sign(s). Select **Fixed** task status.*
- b. *If the information on the signs and in the tag values matches, select **Not An Issue** task status*

4. If Sign(s) weren't found, check the last editing date on the highlighted segments. If the last edits were added **less than 6 months ago**, increase curation distance to **1 mile (default value - 0,625 miles)** and repeat the previous steps.



When you will find sign, pay attention to **shadows in satellite images** to find signs faster

Scenario for removing tags

1. Open Proposed in task GT or Mapillary images **(must be no older than 6 months)** from the farthest image from the exit to the nearest one at a distance of 20-50 meters from each other.
 - a. *If a task has GT images and such images older than images available in OSM from street-level providers, apply **newer_external_imagery** label*
2. View images to make sure that there are **no** Destination or Exit Signs on them.



3. If the signs were found in the images, check the information on the signs with the values of the tags with destination and ref suffixes and prefixes on the highlighted in task segments (*motorway*, *junction node*, *linkway(s)*)

- If the information on the signs and in the tag values does not match, correct the tag value according to the information on the sign(s) or If segments doesn't have tags, that describe information from the sign(s), apply missed tags to the segment(s),. Select Fixed task status and label **incorrect_tag(s)_value**
- b. If the information on the signs and in the tag values matches, select Not an issue task status and select the label **correct_tag(s)_value**



destination:lanes	York Street		
highway	motorway		
lanes	3		
turn:lanes	slight_right		

Tags were added to node

destination	York Street		
highway	motorway_link		
junction:ref	45		
oneway	yes		

Tags were added to link

highway	motorway_junction		
ref	45		

Tags were added to road

4. If Sign(s) weren't found, check the last editing date on the highlighted segments. If the last edits were added **less than 6 months ago, increase curation distance to 1 mile (default value - 0,625 miles)** and repeat the previous steps.

OSM History Viewer

Way 628433164

[OSM](#) [JOSM](#) [Edit](#) [RawEdit](#) [Level0](#) [Deep History](#) [History Browser](#) [Visual History](#) [Mapki](#)

History

Version #8, changeset 110229822 by amakarevich_lyft at 2021-08-25 15:22 [OSM](#) [Achavi](#)

Updated destination lanes according to proprietary sources

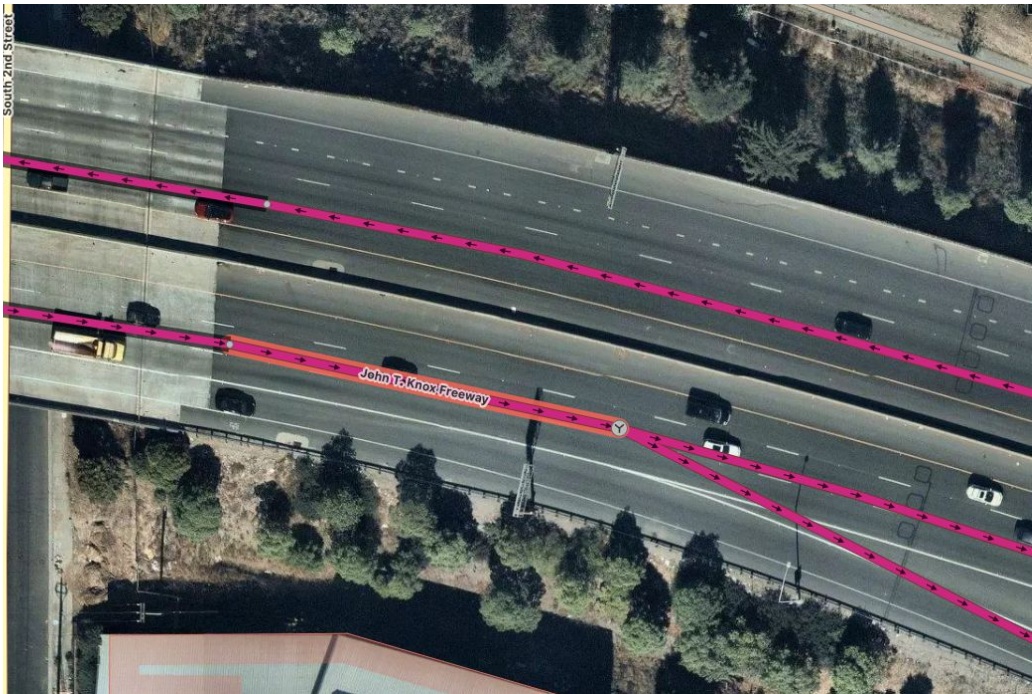
destination:lanes	Fort Collins;Colorado Springs Fort Collins;Colorado Springs	Fort Collins;Colorado Springs Fort Collins;Colorado Springs Washington Street
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5. Remove tags with destination and ref prefixes

Editing instructions

1. Check the lanes number at the selected road section

- If big board with *Destination Signs* is found (which has information about destinations and route numbers for each lane), split the road under the Sign (if not splitted), and add information only from the sign to OSM tags.
- If the number of lanes changes **and/or** the selected part of the road goes beyond the node, then split it.
- If a road section with the same number of lanes (even with a short longitude of 15-20 m.) could be selected, then go to step 4.



Road have to be cut at the point start of the exit (or node/junction)

2. Apply tag turn: lanes = * to road

for lanes which are used for the turn (according to the policy)

3. Apply tag destination: lanes = * to road

It's important to find signs in the proposed photos which clearly describe the destination of all the lanes on the selected road section.

bicycle	no		
destination:lanes	none none none none none Whipple Road;Indu...		
foot	no		
hgv	designated		
highway	motorway		
horse	no		
hov	lane		
lanes	5		
maxspeed	65 mph		
maxspeed:hgv	55 mph		
maxspeed:trailer	55 mph		
name	Nimitz Freeway		
note:lanes	left lane is hov		
oneway	yes		
ref	1880		
sidewalk	none		
turn:lanes	none none none none through;slight_right		
+			



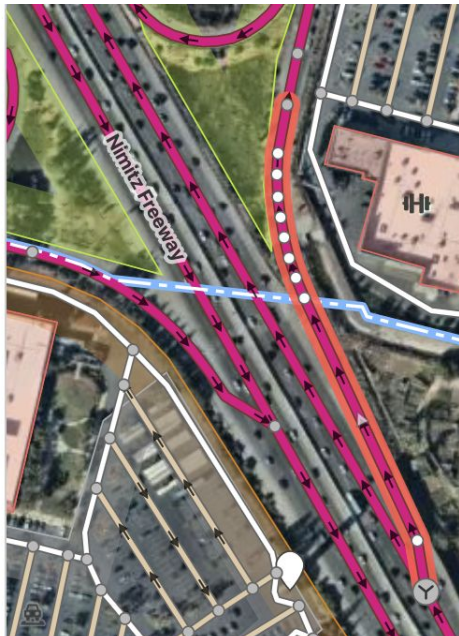
Use [Destination signs: cases](#) for more information about DS and features of split the road and lanes count in the OSM

4. Check if tags on the motorway link match with the destination sign on the photo

- Possible tags:
destination=*
destination:ref=*
- We have to change **destination:street** and **destination:street:to** to **destination**.
Select **Fixed** task status and *tag_transfer* label.



▼ Tags (10)			
destination:street	Whipple Road;Industrial Parkway	🗑	i
highway	motorway_link	🗑	i
junction:ref	residential	🗑	i
lanes	service	🗑	i
maxspeed:advisory	track	🗑	i
oneway	unclassified	🗑	i
tiger:cfcc	footway	🗑	i
tiger:county	path	🗑	i
tiger:reviewed	tertiary	🗑	i
turn:lanes	secondary	🗑	i
+			



5. Check if existing tags on the motorway junction match with the destination sign on the photo:

highway=motorway_junction

ref= exit number

OR noref=yes (if there is no number on the sign)

Tags (2)

highway	motorway_junction		
ref	24		
<div>+</div>			

Relations (0)

+



6. Save changes with a short comment in Editor

- ***removed tag(s) because sign with route number(s)/destination(s) was/weren't found -***
знак не был найден и OCM фотки свежее ГТ
- ***removed tag(s) because sign with route number(s)/destination(s) was/weren't found according to the proprietary sources -***
знак не был найден и ГТ фотки свежее OCM
- ***modified tag(s) that value(s) doesn't/don't match with Destination/Exit sing(s) -***
часть значений тегов отсутствует на знаках и OCM фотки свежее ГТ
- ***modified tag(s) that value(s) doesn't/don't match with Destination/Exit sing(s) according to the proprietary sources -***
часть значений тегов отсутствует на знаках и ГТ фотки свежее OCM

Information about proprietary sources have to be indicated only if the GT image is newer than in the OSM and the information on the GT differs from the OSM

7. Back to Dakota and apply evaluated task status

- **Fixed**
 - *incorrect_tag(s)_value* (scenario for removing tags) - tags exist (or not) on the curated segments but these values don't match with info on the sign(s)
 - *newer_external_imagery* - task has GT images and such images older than images available in OSM from street-level providers
 - *tag_transfer* - destination:street tag changed to destination
- **Not An Issue**
 - *duplicate* - copy of the already curated task
 - *correct_tag(s)_value* (scenario for removing tags) - tags value matches with info on the sign(s)
 - *wrong_road* - all the photos (GPS tracks) do not relate to the mentioned in the task road/segment
 - *no_ds_sign* – the reference image in the task doesn't contain DS sign
- **Already fixed**
- **Too Hard**
 - *bad_quality* - poor imagery quality
 - *construction* - the road is currently being reconstructed/added "construction" which can't be removed
 - *no_evidence* - not enough evidence to solve the task

Don't forget about a comment for QC



Useful links



- [Exit and Destination Signs](#)
- [Destination signs: cases](#)

Optional:

- [Guide Signs Categories](#)
- [Destination Signs. Best Practices](#)
- Feel free to ask questions in the [slack-channel](#).



Thank you

September, 2021