Navigation Mapping Workshop

State of the Map 2018

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Mapbox

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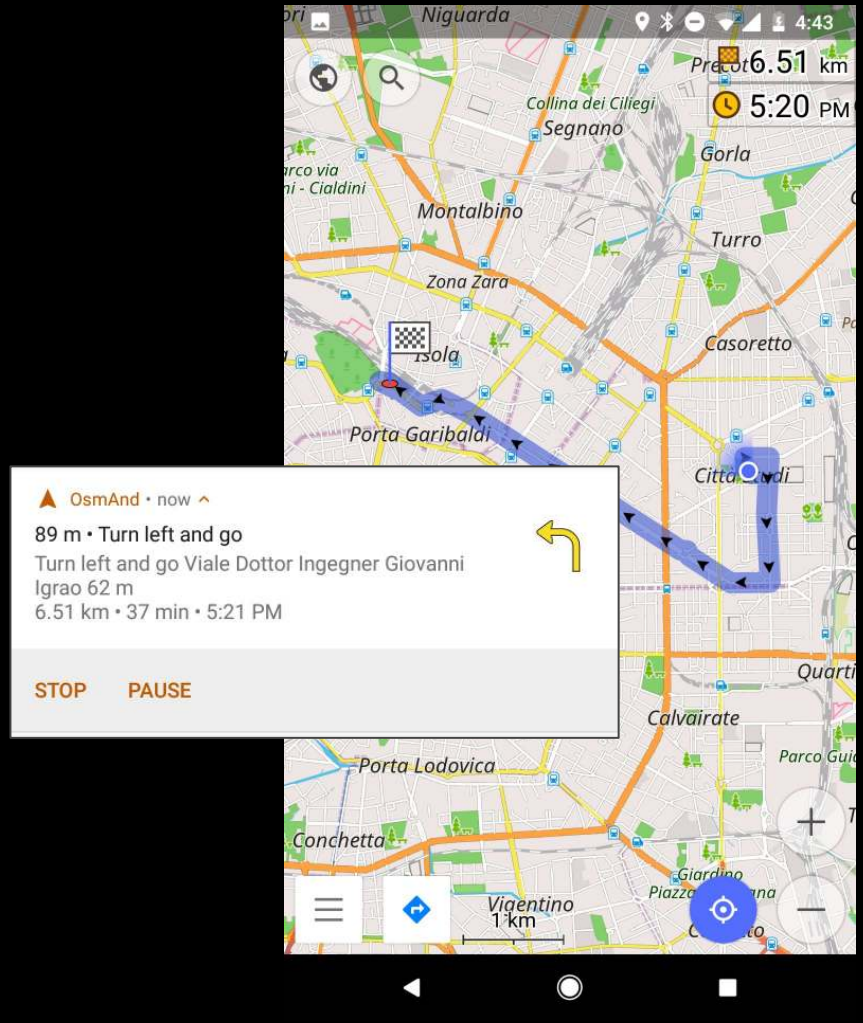
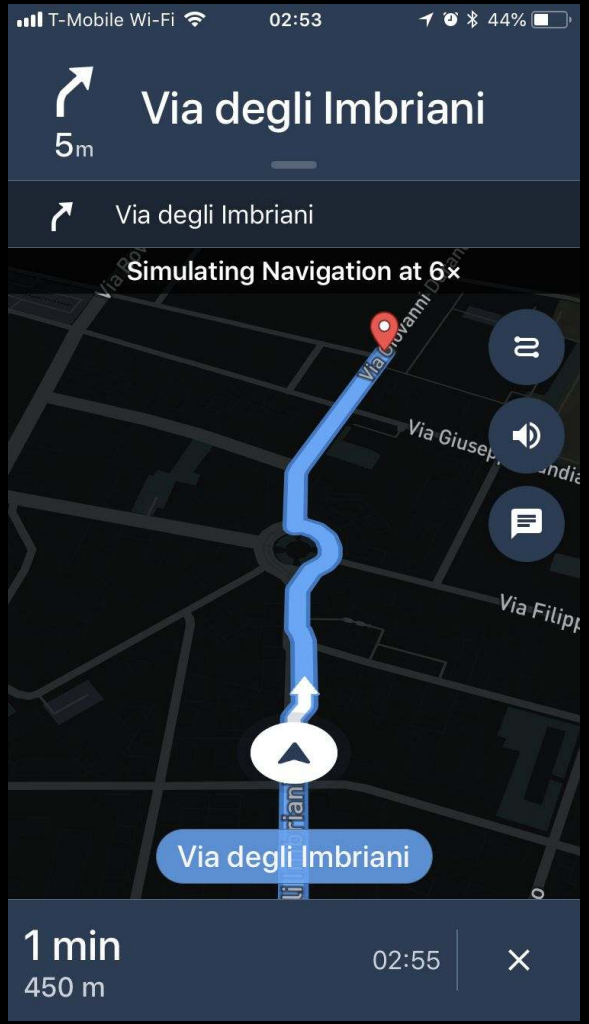
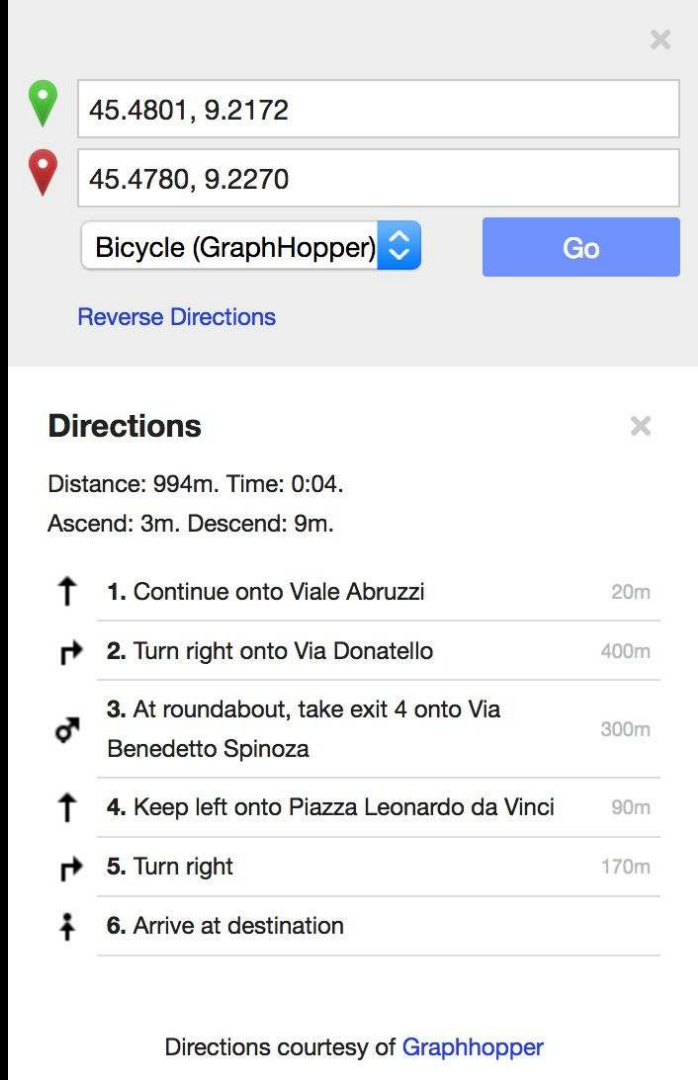
Before we begin

- You can use either iD or JOSM to make edits to OSM
- This is not a general introduction to mapping
- Mainstream tagging – not proposing/promoting obscure tags today


4:43
6.51 km
5:20 PM
Niguarda
Collina dei Ciliegi
Segnano
Gorla
Montalbino
Turro
Zona Zara
Casoretto
Isola
Porta Garibaldi
Calvairate
Porta Lodovica
Conchetta
Vigentino
1 km
OsmAnd • now
89 m • Turn left and go
Turn left and go Viale Dottor Ingegner Giovanni Igrao 62 m
6.51 km • 37 min • 5:21 PM
STOP
PAUSE

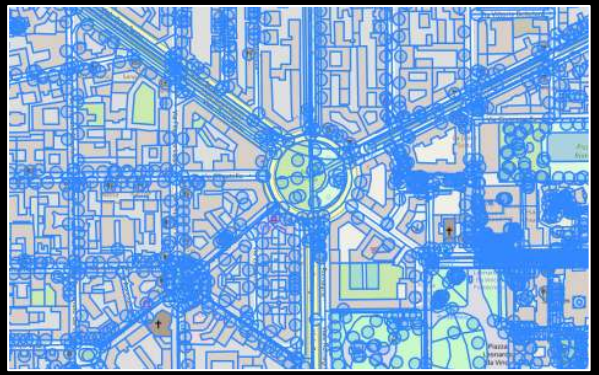

T-Mobile Wi-Fi
02:53
44%
5m
Via degli Imbriani
Via degli Imbriani
Simulating Navigation at 6×
Via Giovanni
Via Giuseppe
Via Filipp
Via degli Imbriani
1 min
450 m
02:55

How do I get there?

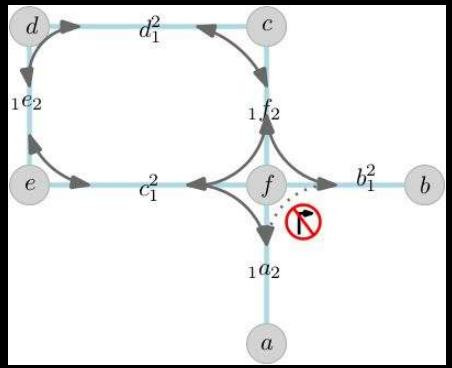


Armchair to cupholder

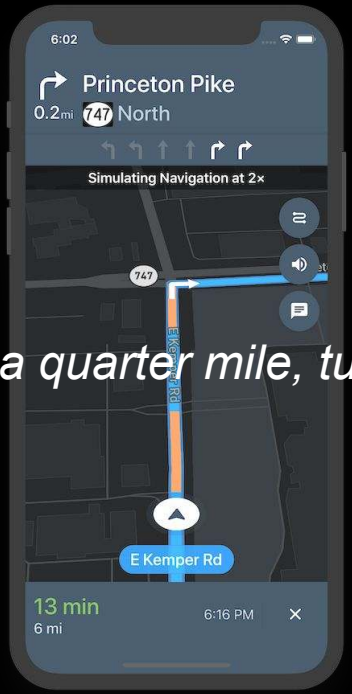
Data



Router



UI



“In a quarter mile, turn left”

Don’t tag for the renderer

Don’t tag for the renderer

(Tag for the renderer *and* the router!)

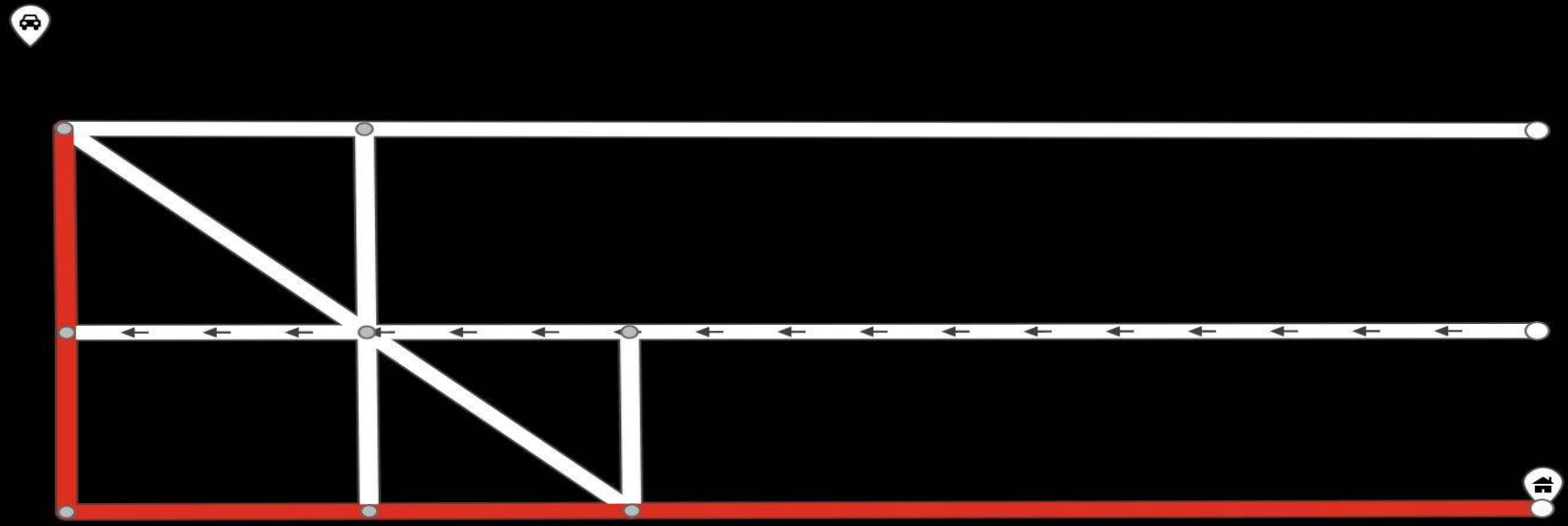
Quốc lộ 14
Microsoft Corporation, © 2018 DigitalGlobe, ©CNES (2018) Distribution Airbus DS

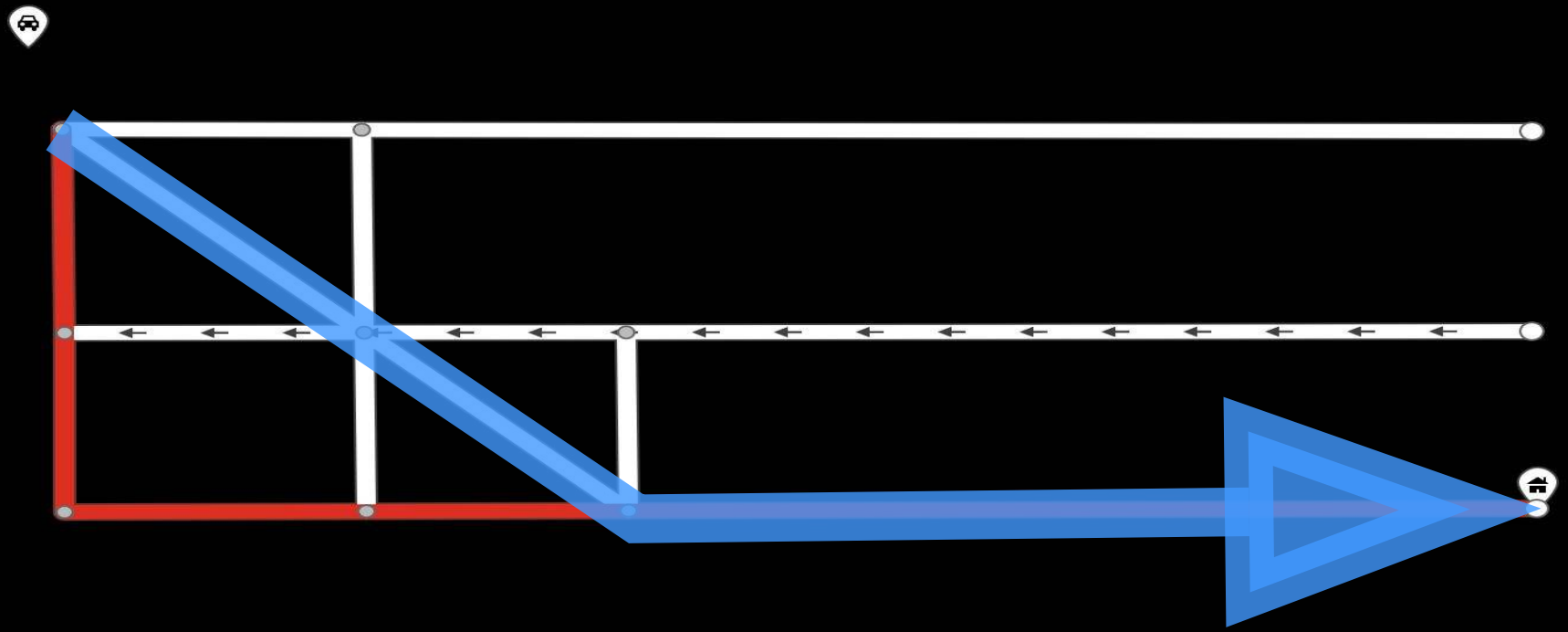
Simpsons Trace
Simpsons Trace

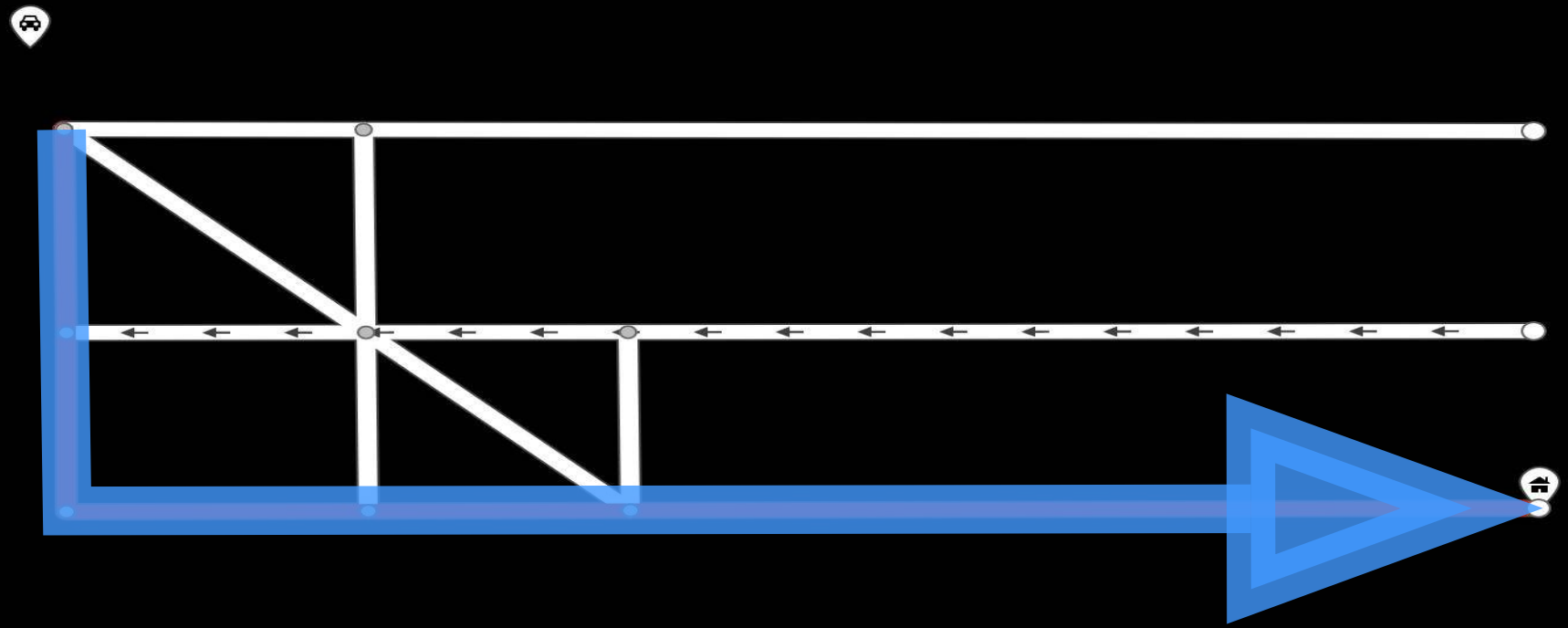
Simpsons Trace

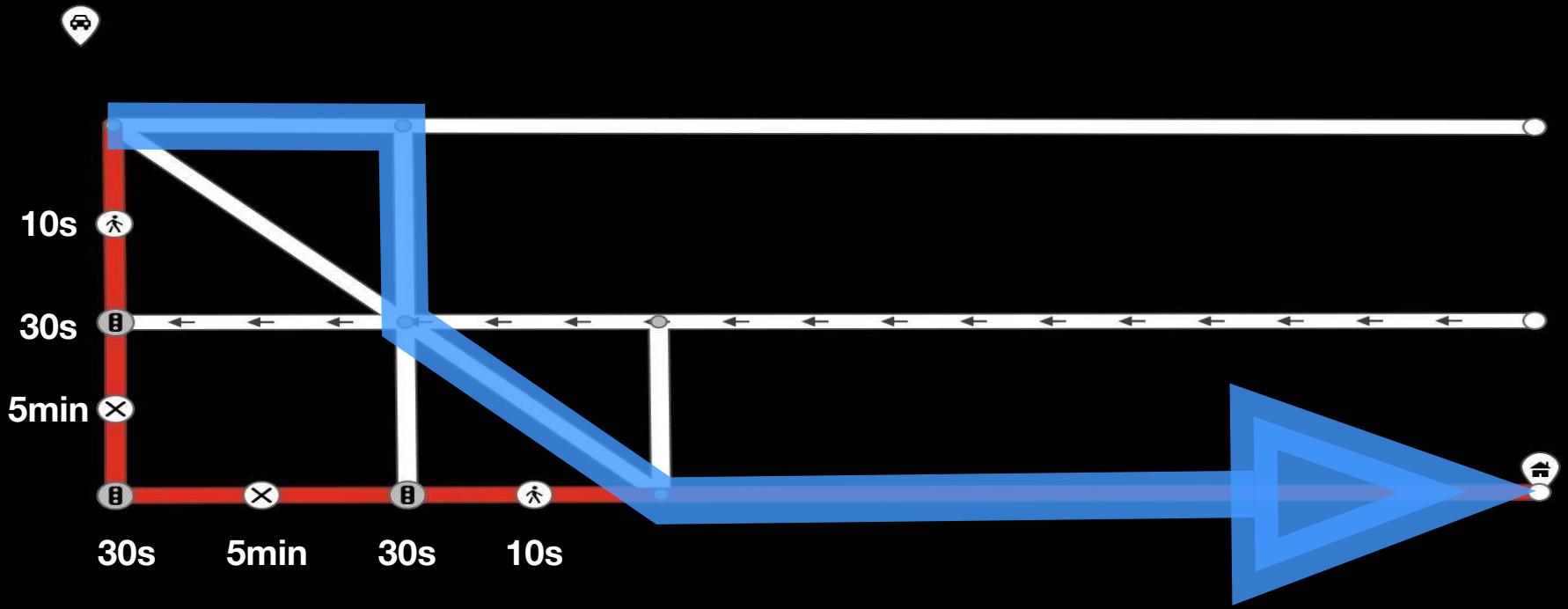
Simpsons Trace
Simpsons Trace

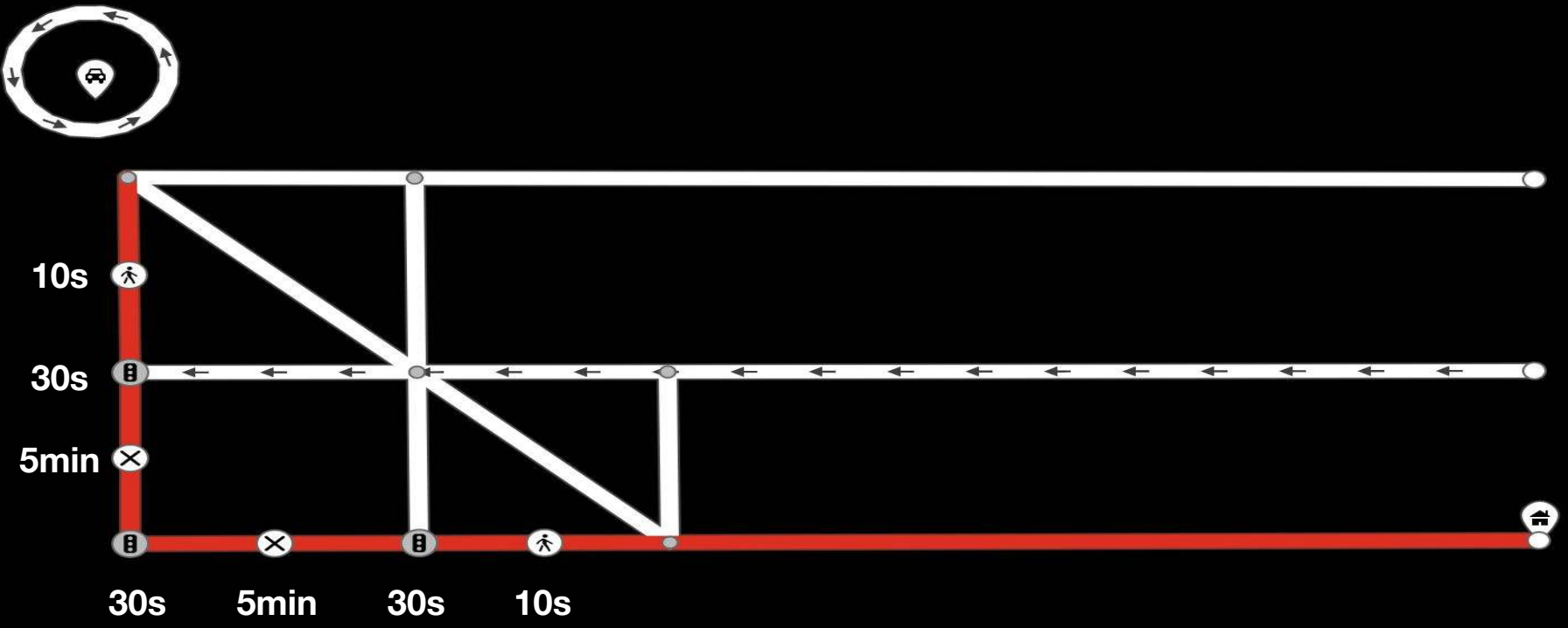
Thinking like a router

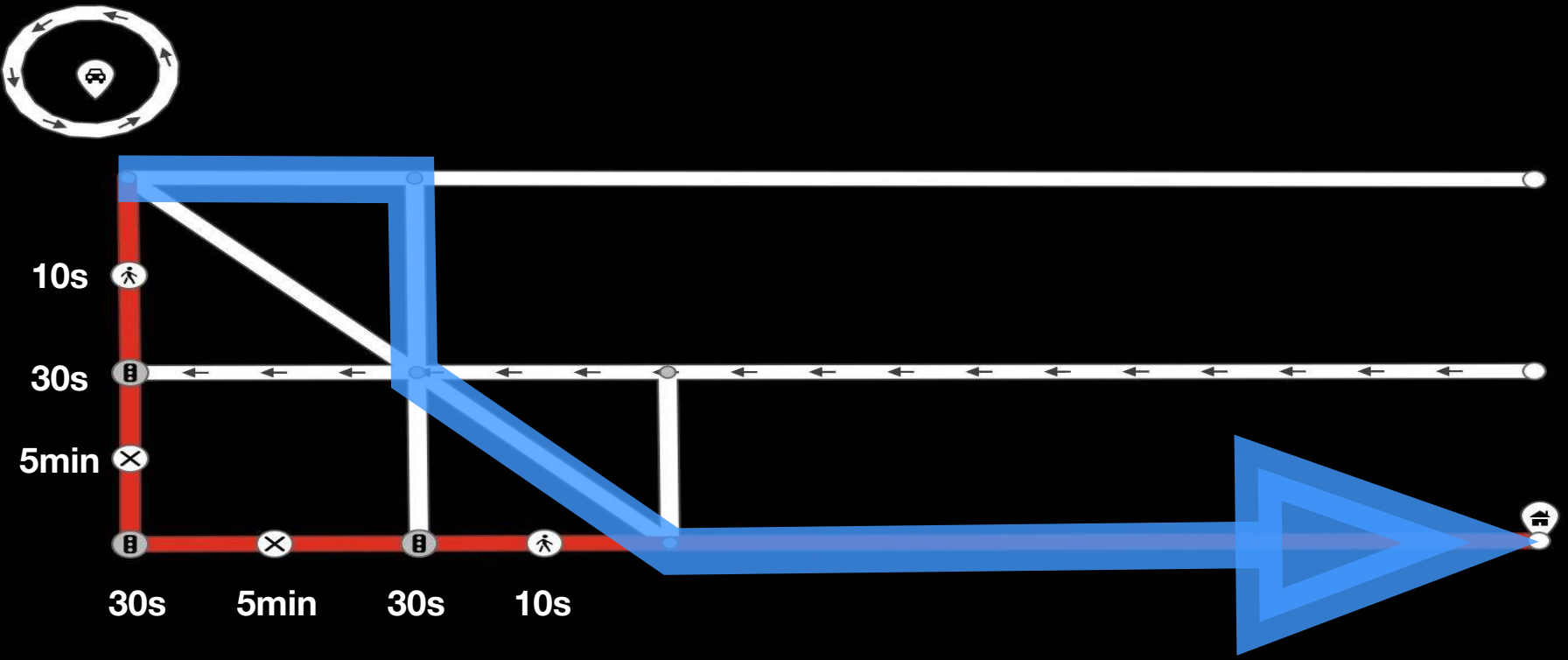






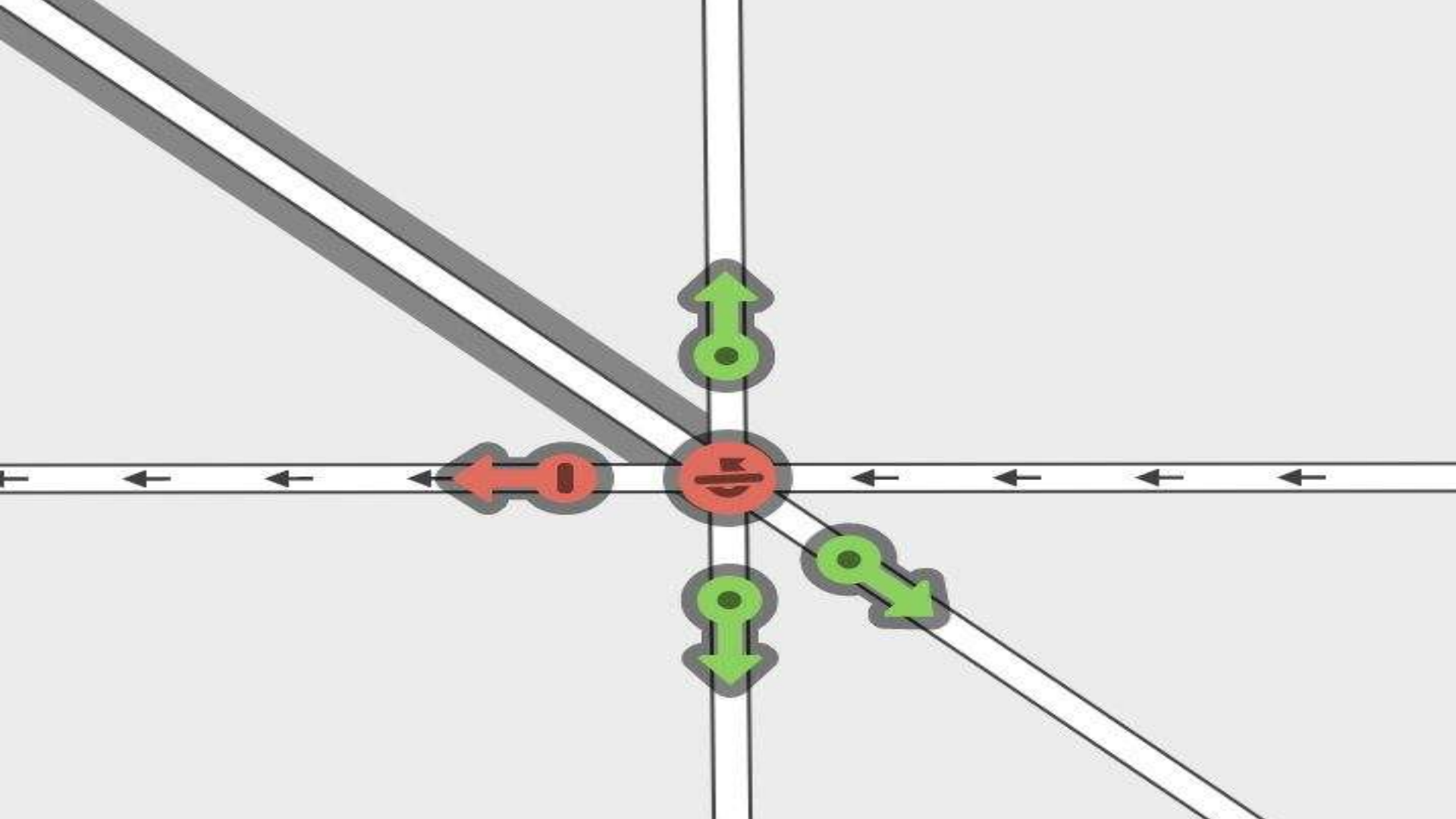

10s
30s
5min
30s
5min
30s
10s

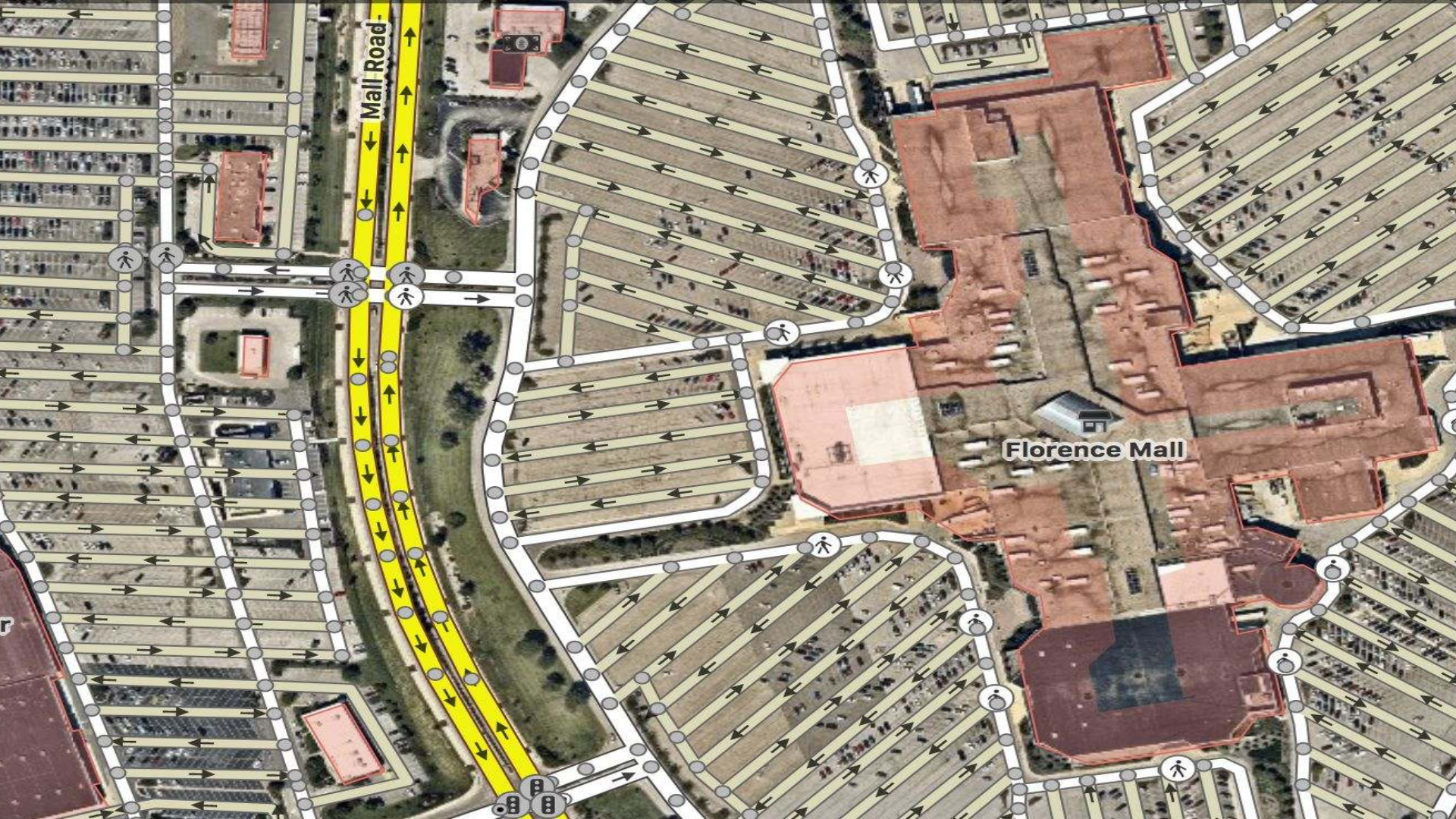

10s
30s
5min
30s
5min
30s
10s


10s
30s
5min
30s
5min
30s
10s

Jefferson
Jefferson Av
BEARCATS

Restrictions




Mall Road
Florence Mall

- ice_skates=*
- horse=* (horse riders)
- vehicle=* (category: any vehicle)
  - **Non-motorized vehicle**
    - **Single-tracked**
      - bicycle=* (cyclists)
    - **Double-tracked**
      - carriage=* (horse(s) and carriage)
      - trailer=* (needs to be towed by another vehicle which has its own restrictions)
        - caravan=* (a W travel trailer, also known as caravan)
  - motor_vehicle=* (category: any motorized vehicle)
    - **Single-tracked**
      - motorcycle=* (a 2-wheeled motor vehicle, allowed to drive on motorways)
      - moped=* (motorized bicycles with a speed restriction; e.g., at most a 50 cc engine or max. speed of about 45 km/h)
      - mofa=* ("low performance moped", usually with a maximum design speed of 25 km/h)
    - **Double-tracked** (category: motor vehicles with more than 2 wheels/more than 1 track)
      - motorcar=* describes all double tracked motor vehicles, including automobiles / (passenger) cars. Motorcar=no means 'no entry for any power driven vehicle except two-wheeled motor cycles without side-car'
      - motorhome=* (a W motorhome)
      - tourist_bus=* describes a bus that is not acting as a public transport bus service, usually for long-distance travel but not always
      - coach=* a bus for long-distance travel, not part of a public transport bus service
      - goods=* (light commercial vehicles; e.g., goods vehicles with a maximum allowed mass of up to 3.5 tonnes)
      - hgv=* (heavy goods vehicle; e.g., goods vehicles with a maximum allowed mass over 3.5 tonnes)
        - hgv_articulated=* articulated heavy goods vehicle
      - agricultural=* (agricultural motor vehicles; e.g., tractors) that have additional restrictions; e.g., a 25 km/h speed limit)
      - atv=* a.k.a. *Quad (bike)* (Restricted to or permissive for vehicles 50 in, 1.27 m, or less in width) still in proposal stage. You may want to use maxwidth=1.27 instead.
      - snowmobile=*
    - **By use**
      - psv=* (public service vehicle)
        - bus=* (a heavy bus acting as a public service vehicle)
        - minibus=* (a light bus acting as a public service vehicle)

EXCEPT
COMMERCIAL
VEHICLES
AND
VEHICLES
LOADING

7AM TO 9AM
4PM TO 6PM

OVER
3/4 TUN

Demo

Highway exits and destination signs

EXIT 127
INTERSTATE 335
TO
INTERSTATE 70
Topeka
Kansas City
INTERSTATE 35
50
Emporia
Kansas City
EXIT 30 MPH
EXIT 127

212
Boring
Oregon City

EAST
INTERSTATE 10
WEST
INTERSTATE 10
Lake City
Tallahassee

Demo

Turns and lanes

Turns

- For the router - **Turn Restrictions**
- For human friendly experience - **Turn Lanes**

Turn Restrictions

Extremely important for navigation.

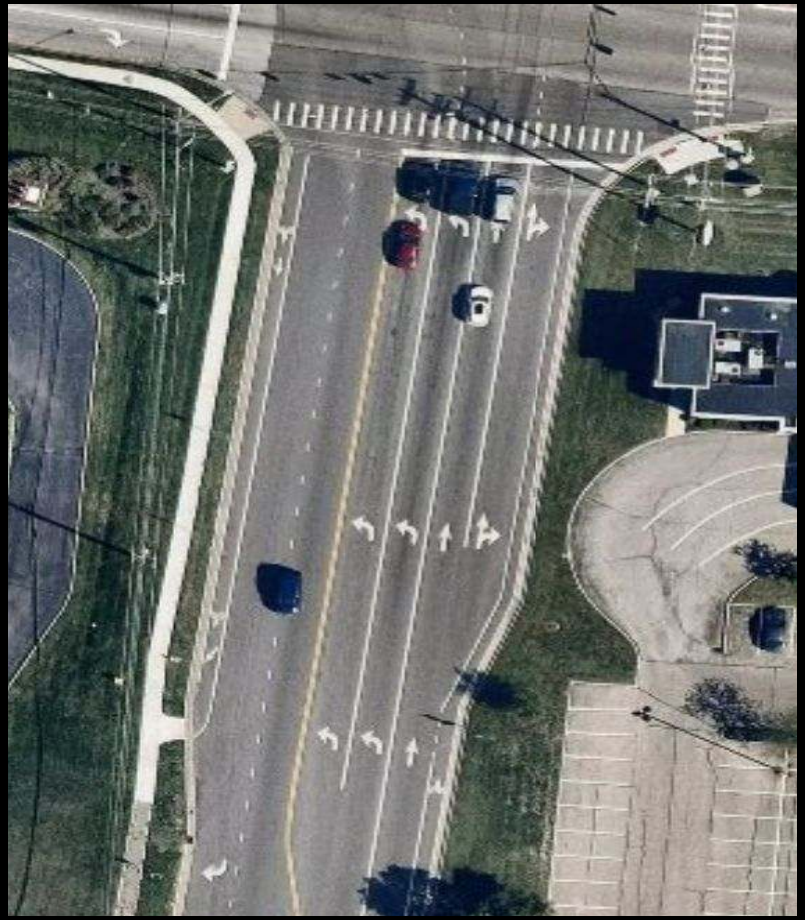
Coverage in OSM is scant.

They don’t add much in terms of visual maps so they’ve been overlooked.

YOU can help!

Turn Lanes

Important because the help the driver prepare for a large intersection by getting into the correct lane



ONLY
ONLY

Cox Rd
P
ONLY

Demo

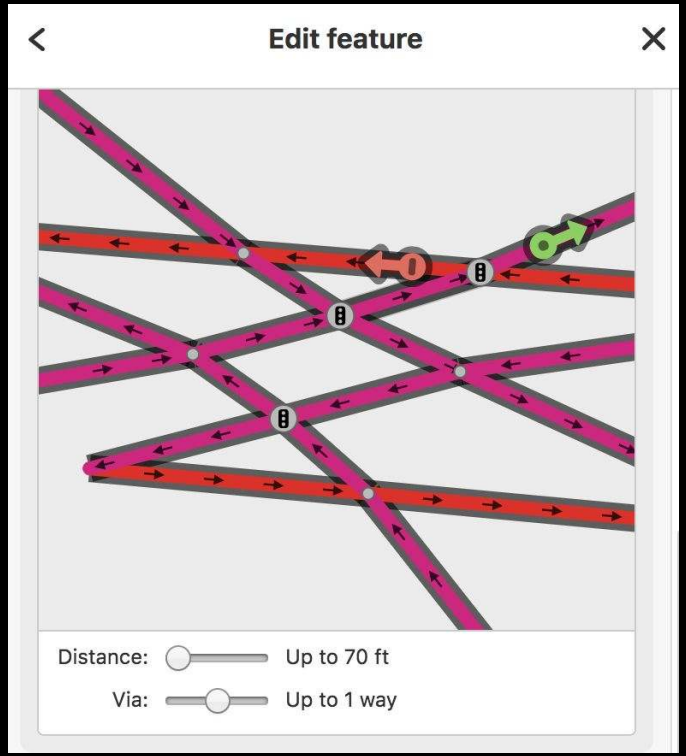
Lanes in the future

- change:lanes
- transit:lanes and transit relations
- Per-lane entrance and exit destinations

Intersections

Intersection Mapping

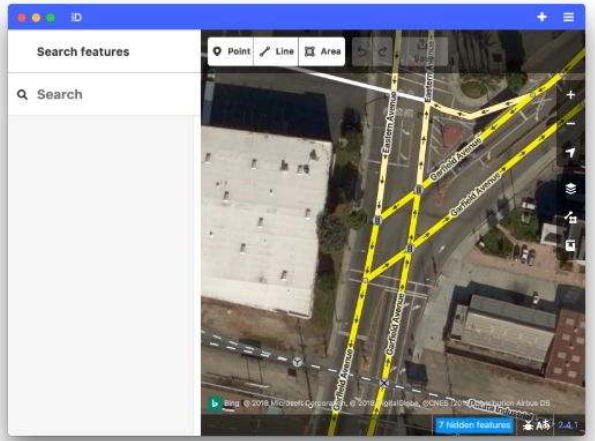
1. Make sure all the possible paths through the intersection are mapped, but no more.



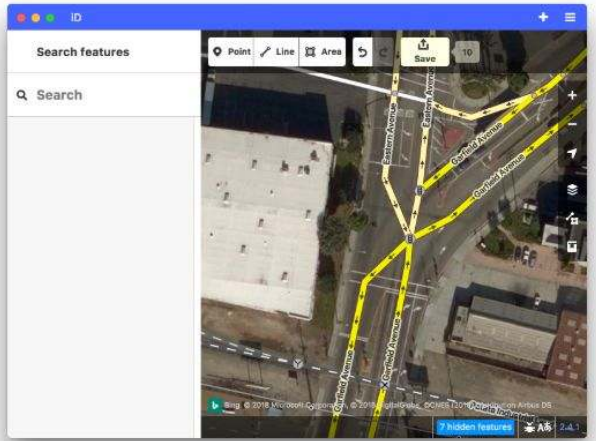
Intersection Mapping

2. Avoid contorting through roads.

✅ **Recommended**



❌ **Not recommended**



Intersection Mapping

3. Make sure to tag turn lanes throughout the intersection.

Look here for more details

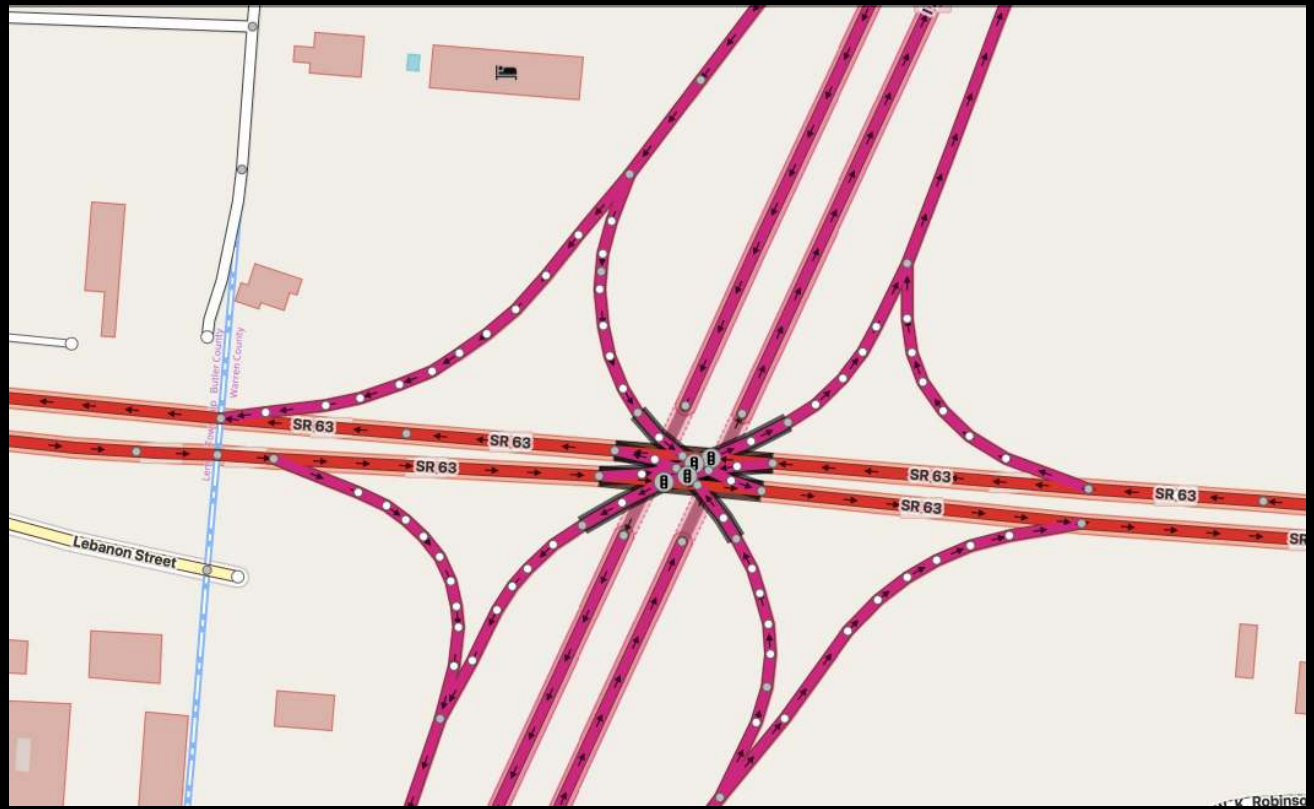
https://www.mapbox.com/mapping/mapping-for-navigation/modeling-intersections-for-map-navigation/

Complex Intersections

Complex intersections are designed to allow large volumes of traffic move through limited space safely and efficiently. Examples:

- Single-point urban interchange (SPUIs)
- Continuous Flow Intersection (CFI)
- Diverging Diamond Interchange (DDI)
- Superstreet
- Turbo Roundabout

SPUIs



Starting points

- Make your hometown navigable!
- https://etherpad.wikimedia.org/p/navigation-mapping
- https://www.mapbox.com/mapping/mapping-for-navigation/