Highways to Boulevards: Network-Based Solutions

Marcy McInelly, AIA, Urbsworks, Inc

11 June 2014

How Portland, Oregon, removed a riverfront freeway in 1974 and relied on its street network to handle traffic, grow transportation choices, restore street vitality and become the economic center of the region

FEATURE... **PROJECT FOR TRANSPORTATION REFORM** SUSTAINABLE STREETS, HIGHWAYS-TO-BOULEVARDS, WALKABLE THOROUGHFARES, MORE!»»»

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Portland's Harbor Drive

In the history of American freeway teardowns, Portland's Harbor Drive holds an auspicious position. It stands as the first major highway to be intentionally removed. In 1950, Harbor Drive, running adjacent to downtown along the western bank of the Willamette River, became Portland's first limited-access highway, six lanes carrying US Route 99W. As more freeways were built in the city during the 1960s--including Interstate 5 on the eastern bank of the Willamette and Interstate 405, a western bypass around downtown--Harbor Drive became less important as a long-haul freeway route. In the early 1970's, the average daily traffic using Harbor Drive was about 24,000 vehicles, including approximately 2,500 heavy trucks accessing nearby industrial areas.

Highway Removal

In the late 1960s, newly elected Governor Tom McCall pledged his support for the beautification of the west bank of the Willamette River-harkening back to the City Beautiful plans at the turn of the century that envisioned parks and greenways along the river. Alternatives were proposed for the area, initially various tunnel options were discussed but proved too expensive. Citizens, led by the Riverfront for Citizens coalition, called for a park and boulevard option. McCall ultimately backed the boulevard option and in 1974, Harbor Drive was closed for reconstruction.

The Boulevard

The direct footprint of Harbor Drive was converted into parkland and more park acreage was created by demolishing industrial and commercial buildings that bordered the freeway along Front Avenue. Front Avenue was widened into a landscaped boulevard to handle the local traffic and was later renamed as Naito Parkway. In 1978, construction of the 37-acre Waterfront Park was completed and, in1984, was named after Governor Tom McCall. The city extended Waterfront Park to the south in 1999, doubling the size of the public open space. Due to the success of the park, the city is currently redesigning sections of Nation Parkway to make the boulevard more pedestrian-friendly.

Economic Development

The success of Portland's downtown is widely known-and the demolition of Harbor Drive should take a good portion of credit. Key developments-like Yards at Union Station to the north and RiverPlace to the south-led to a resurgence in downtown housing. The city continues to develop waterfront plans to build on the river as an asset. The Portland Development Commission's Downtown Waterfront Development Strategies Project aims to increase mixed-use development along the length of the downtown and three blocks from the waters' edge. This is in recognition of the dramatic increases in property value that have resulted from the replacement of Harbor Drive with an at-grade boulevard.

A Postcard of the Harbor Drive. Source: cafeunknown.blogspot.com

The same area as pictured above, as Tom McCall Waterfront Park, circa 2005. Source: PDXplan.org

Source: flickr.com Greg_e

Asphalt strip to disappear from Portland riverfront

"Harbor Drive was opened in 1943 to become 99-W in Portland. Gradually, it had been supplanted by Interstate-5, but it has acted as a barrier to pedestrians wishing to walk along the riverbank.
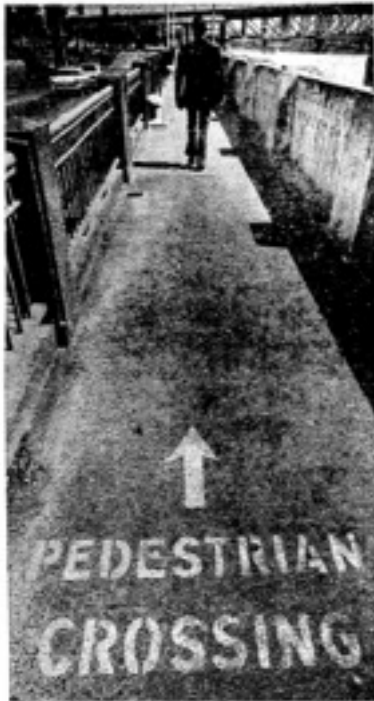
That will be easier now.

Traffic will be re-routed onto SW Front Avenue, but motorists are encouraged to seek alternatives to this street a half-block away."

The Oregonian, Thursday May 23, 1974

"The people have recaptured the river in downtown Portland after more than a century.

Let's never let it go.

The closure of Harbor Drive…will cause considerable traffic dislocation and probably, at least for a time, traffic confusion and inconvenience. But, in the long view, it is the thing to do…"

The Oregonian, Thursday May 23, 1974

Editorials **The Oregonian** Letters

Founded Dec. 4, 1850. Established as a daily Feb. 4, 1861. Sunday Oregonian established Dec. 4, 1881. Published daily and Sunday by the Oregonian Publishing Co., Oregonian Bldg., 1320 SW Broadway, Portland, Oregon 97201.
IAEL J. FREY, Chairman

ROBERT C. NOTSON, Publisher
HAROLD V. MANZER, Advertising Director
GEORGE J. VANELLI, Circulation Director

3M

MAY 24, 1974

Blacktop to green

The closure of Harbor Drive on the west bank of the Willamette River in downtown Portland will cause considerable traffic dislocation and probably, at least for a time, traffic confusion and inconvenience. But, in the long view, it is the thing to do; it encourages the vision of a green-belted downtown waterfront freely accessible to the people, a major asset of older cities in Europe and the eastern states.

The area involved was the life stem of 19th century Portland. Industrial and commercial buildings lined the river's bank there when water was the principal means of long-range traffic. The age of the motor car changed that. When Harbor Drive was opened to traffic in 1943, it was looked upon correctly as an important link in interstate highway 99W and a relief for crowding in narrow downtown streets.

It has served that purpose well, but this is a new era in which greenery and open space are valued over the exhaust-filled lanes of macadam and concrete. Harbor Drive and its immediate environs will bow out next month as the site of the Rose Festival Fun Center. Thereafter, it will give way to demolition to provide a waterfront worthy of Oregon's pride.

A great deal of study has been done and is continuing on the character of the waterfront project. There seems to be general agreement on the following points, to be refined by architects and engineers: There must be the greatest possible access to the area by pedestrians, not only from Front Avenue, but from the core of the city. There must be attractions on the waterfront inviting to pedestrians. These facilities and the design of the waterfront park must be such that it will not be a haunt for characters who merely want to sleep off a binge on the greensward. The park should be extended, as conditions permit, both north and south.

All of the metropolitan area should have optimism about the prospects on the harbor wall. The people have recaptured the river in downtown Portland after more than a century. Let's never let it go.

PAVEMENT TO GREEN SPACE — SW Harbor Drive (right) will be closed for all time Thursday to southbound traffic, Friday to northbound traffic. Vehicles will be diverted to SW Front Avenue (left). Eventual plans call for park to replace Harbor Drive. Details on Page 29.

Oregonian image

the long view

Portland riverfront today

Urbsworks image

places for people

CNU Network Principles at work

PRINCIPLE 1
CREATE A STREET NETWORK THAT SUPPORTS COMMUNITIES AND PLACES

Street networks fulfill a basic need in human society. They connect people to each other and to destinations. Street networks are not just about transportation and infrastructure, but also about the movement of people, goods, ideas, and wealth. They foster economic activity and provide public space for human interaction. Street networks form an effective, flexible framework for building a community, in every sense of the word.

"Street networks are not just about transportation and infrastructure, but also about the movement of people, goods, ideas and wealth."

"They foster economic activity and provide public space for human interaction."

PRINCIPLE 1
CREATE A STREET NETWORK THAT SUPPORTS COMMUNITIES AND PLACES
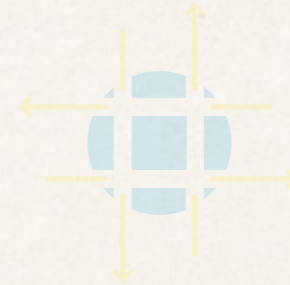
Street networks fulfill a basic need in human society. They connect people to each other and to destinations. Street networks are not just about transportation and infrastructure, but also about the movement of people, goods, ideas, and wealth. They foster economic activity and provide public space for human interaction. Street networks form an effective, flexible framework for building a community, in every sense of the word.

PRINCIPLE 3
MAXIMIZE TRANSPORTATION CHOICE
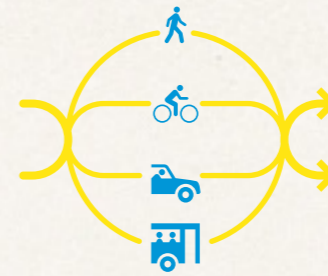
All people should be able to travel within their community in a safe, dignified and efficient manner. A sustainable street network makes that possible and ensures a choice of transportation modes and routes. People can walk, bicycle, take transit, or use a vehicle. Each mode is integrated, as appropriate, within each street. A sustainable street network gets you to your destination, and back.

"All people should be able to travel within their community in a safe, dignified and efficient manner."

"Each mode is integrated, as appropriate, within each street."

"A sustainable street network gets you to your destination, and back."

Portland City Center

transportation choices

TRIMET

Portland Transit Mall

Bus Service
- Frequent Service
- Standard Service
- Rush-Hour Service
- Bus stop

MAX Light Rail Service
- **MAX Blue Line** — Hillsboro/City Center/Gresham
- **MAX Green Line** — Clackamas/City Center/PSU
- **MAX Red Line** — Airport/City Center/Beaverton
- **MAX Yellow Line** — Expo Center/City Center/PSU

Portland Streetcar
- **Central Loop Line (CL)** — OMSI to SW Market
- **North South Line (NS)** — NW 23rd to South Waterfront

Portland Aerial Tram
- Marquam Hill/South Waterfront

Points of Interest
- TC Transit Center
- S High School or College
- H Hospital
- L Library
- Park

Feet: 0 500 1,000 1,500

NORTH

Selected labels:
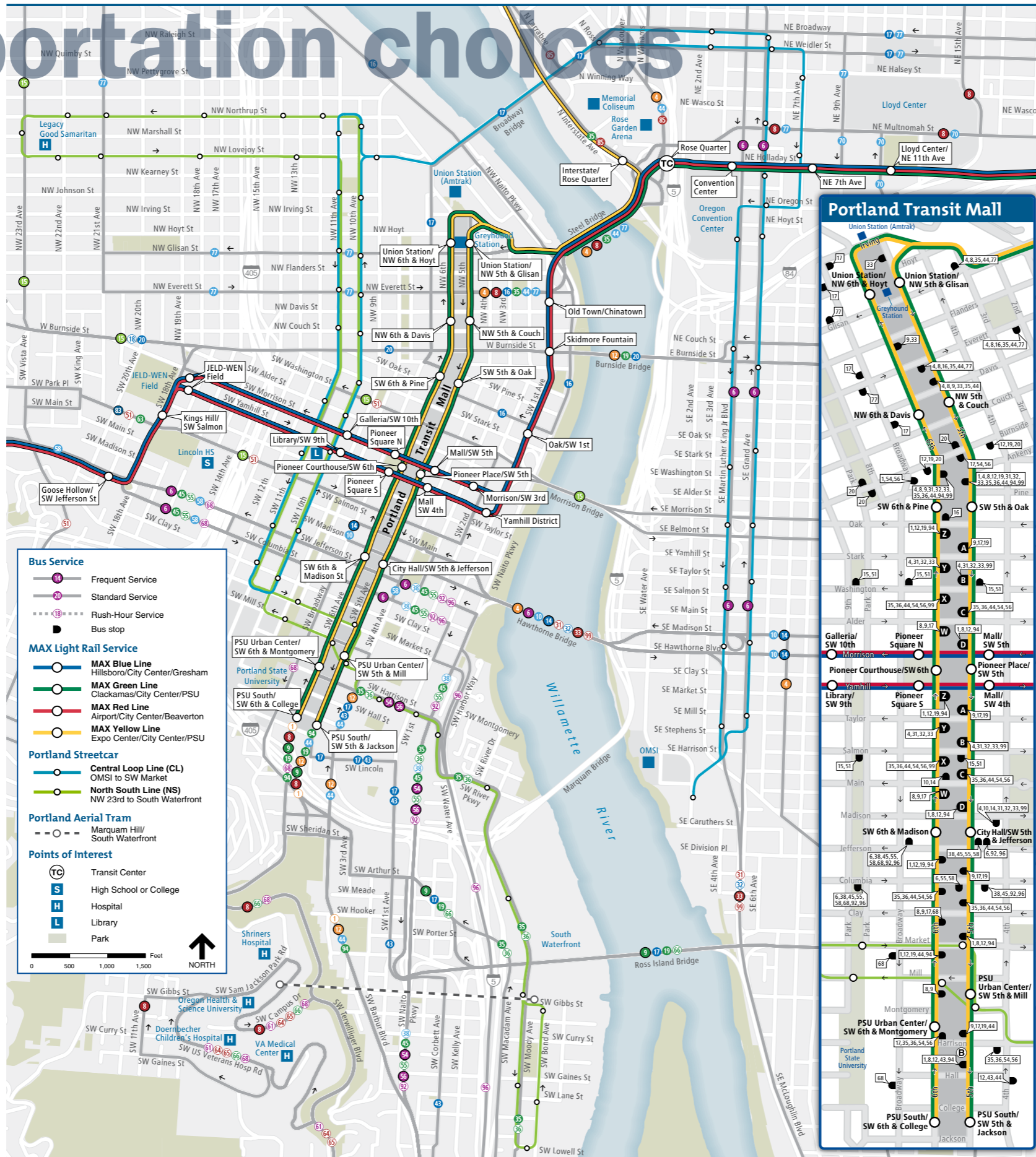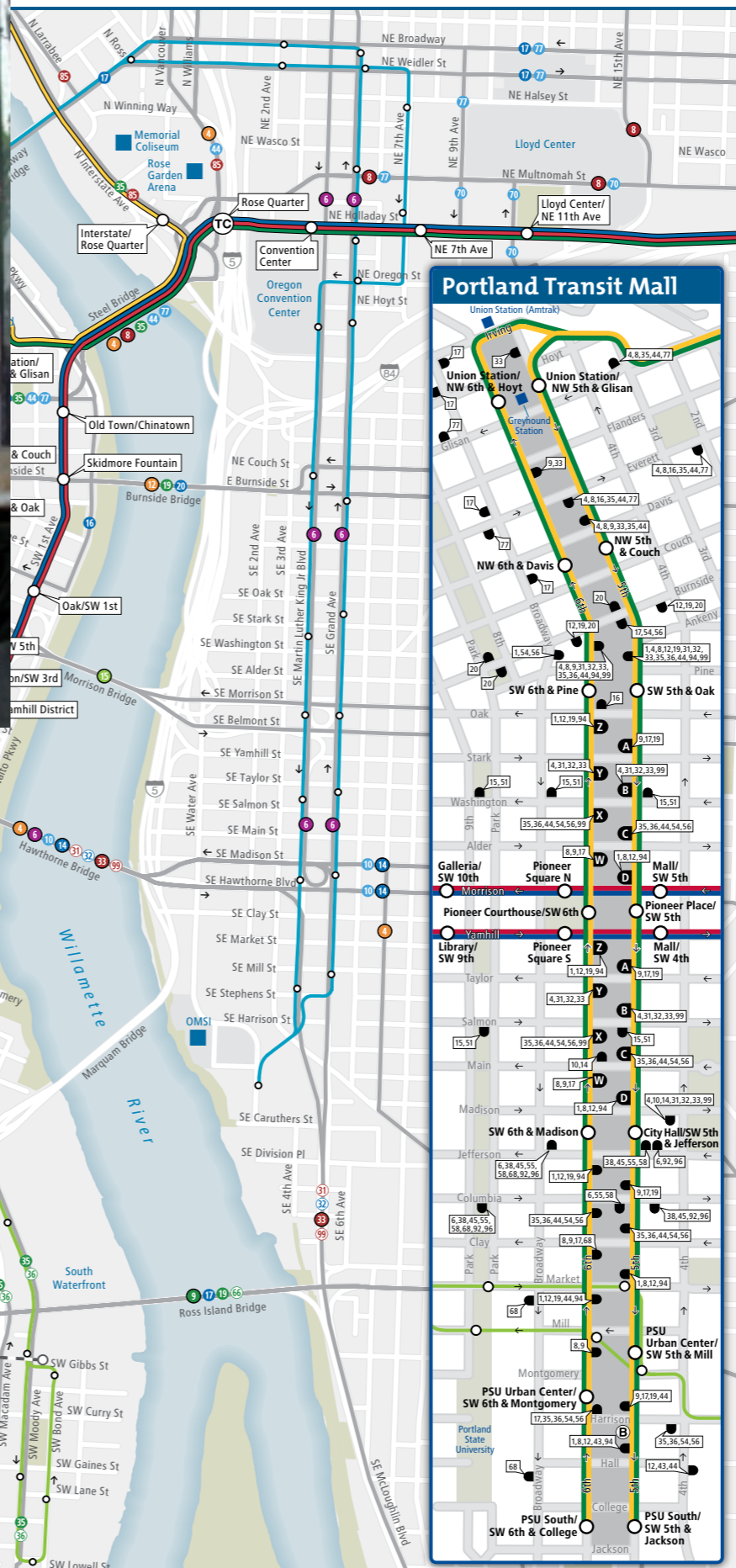Legacy Good Samaritan, Union Station (Amtrak), Greyhound Station, Memorial Coliseum, Rose Garden Arena, Lloyd Center, Convention Center, Oregon Convention Center, Rose Quarter, Interstate/Rose Quarter, Lloyd Center/NE 11th Ave, NE 7th Ave, Old Town/Chinatown, Skidmore Fountain, Union Station/NW 6th & Hoyt, Union Station/NW 5th & Glisan, NW 6th & Davis, NW 5th & Couch, NW 5th & Oak, SW 6th & Pine, Galleria/SW 10th, Pioneer Square N, Mall/SW 5th, Oak/SW 1st, Library/SW 9th, Pioneer Courthouse/SW 6th, Pioneer Square S, Pioneer Place/SW 5th, Mall SW 4th, Morrison/SW 3rd, Yamhill District, SW 6th & Madison St, City Hall/SW 5th & Jefferson, PSU Urban Center/SW 6th & Montgomery, PSU Urban Center/SW 5th & Mill, PSU South/SW 6th & College, PSU South/SW 5th & Jackson, Portland State University, JELD-WEN Field, Kings Hill/SW Salmon, Lincoln HS, Goose Hollow/SW Jefferson St, Shriners Hospital, Oregon Health & Science University, Doernbecher Children's Hospital, VA Medical Center, South Waterfront, OMSI, Willamette River

Bridges: Broadway Bridge, Steel Bridge, Burnside Bridge, Morrison Bridge, Hawthorne Bridge, Marquam Bridge, Ross Island Bridge

TRIMET

Portland Transit Mall

Bus Service

Frequent Service

Standard Service

Rush-Hour Service

Bus stop

MAX Light Rail Service

MAX Blue Line
Hillsboro/City Center/Gresham

MAX Green Line
Clackamas/City Center/PSU

MAX Red Line
Airport/City Center/Beaverton

MAX Yellow Line
Expo Center/City Center/PSU

Portland Streetcar

Central Loop Line (CL)
OMSI to SW Market
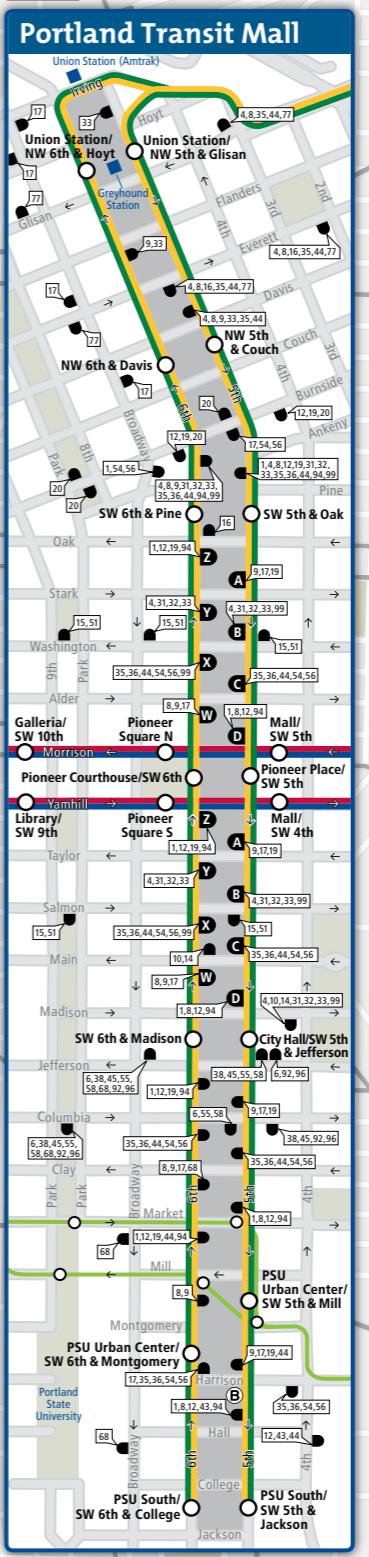
North South Line (NS)
NW 23rd to South Waterfront

Portland Aerial Tram

Marquam Hill/
South Waterfront

Points of Interest

TC   Transit Center

S   High School or College

H   Hospital

L   Library

Park

Feet
0   500   1,000   1,500

NORTH

TRI☉MET

Portland Transit Mall

Bus Service

Frequent Service	
Standard Service	
Rush-Hour Service	
Bus stop	

MAX Light Rail Service

MAX Blue Line
Hillsboro/City Center/Gresham

MAX Green Line
Clackamas/City Center/PSU

MAX Red Line
Airport/City Center/Beaverton

MAX Yellow Line
Expo Center/City Center/PSU

Portland Streetcar

Central Loop Line (CL)
OMSI to SW Market

North South Line (NS)
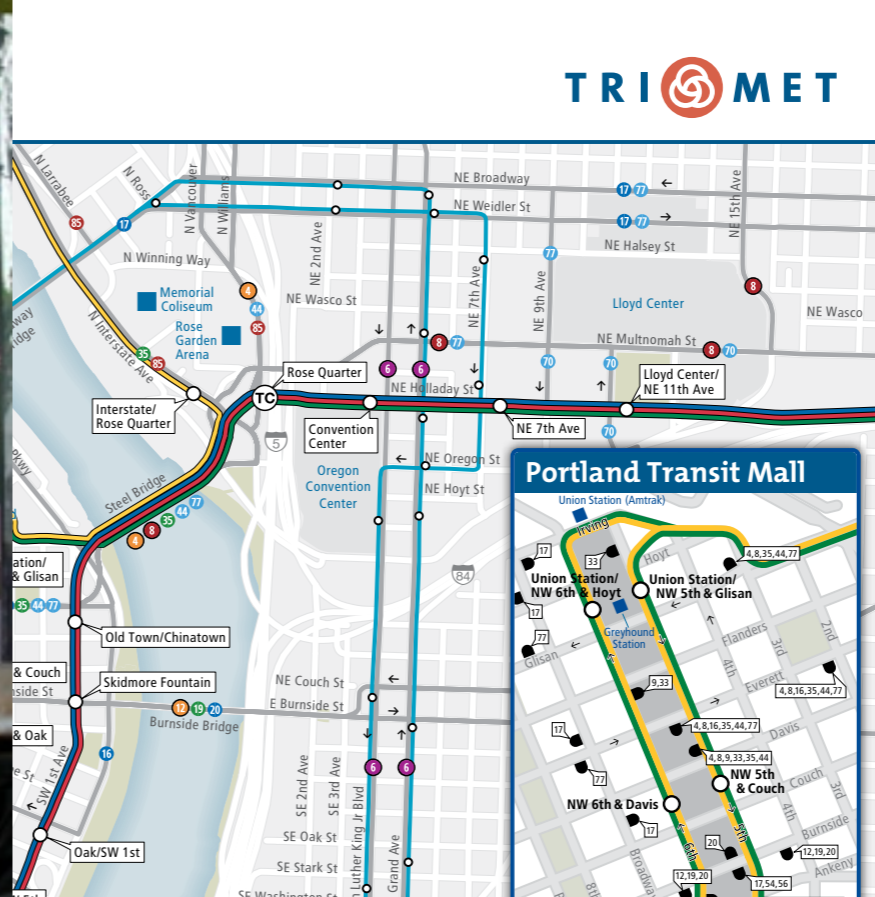NW 23rd to South Waterfront

Portland Aerial Tram
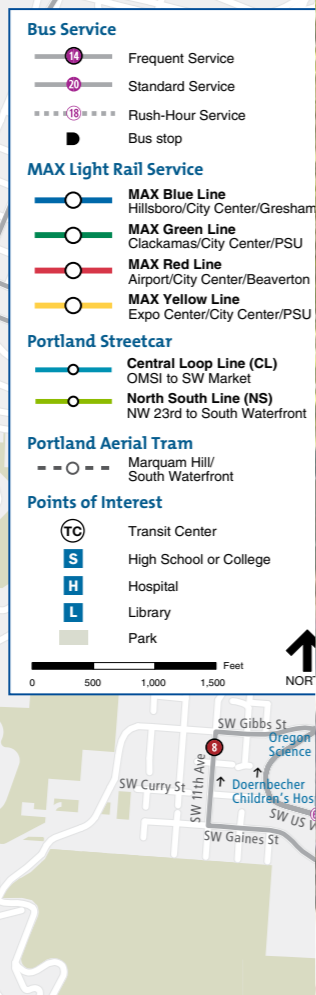Marquam Hill/
South Waterfront

Points of Interest

TC Transit Center
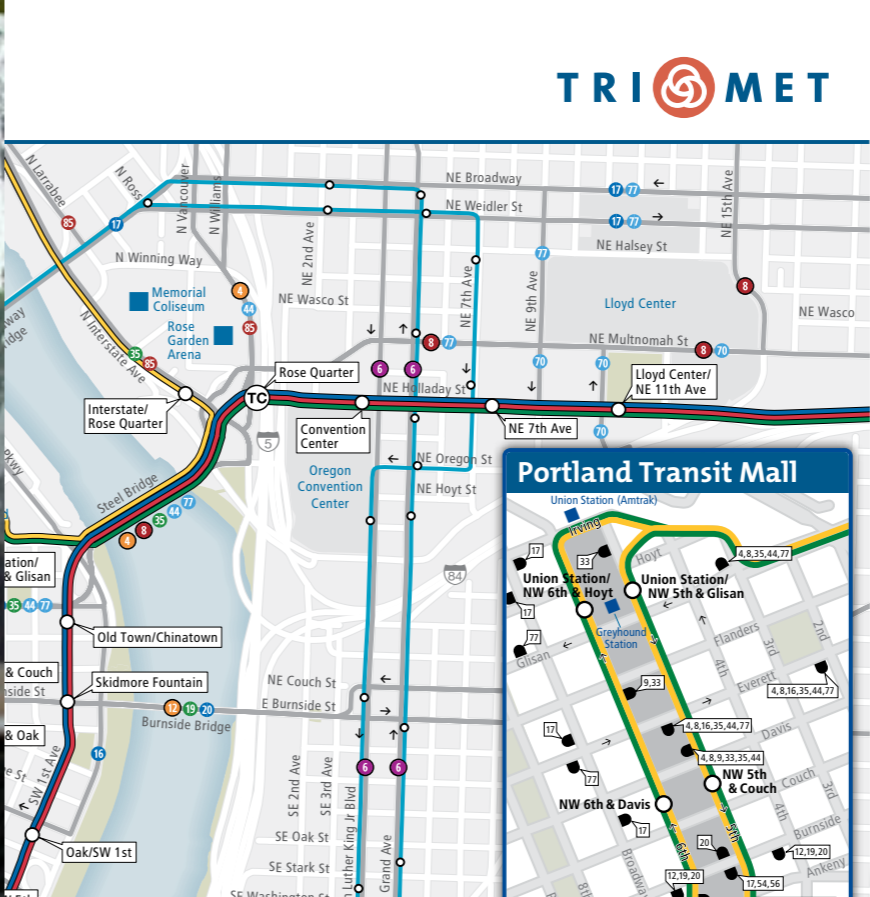
S High School or College

H Hospital

L Library

Park

Urbsworks images

TRI🌀MET

NE Broadway
NE Weidler St
NE Halsey St

Memorial Coliseum
Rose Garden Arena

Lloyd Center

NE Wasco

NE Multnomah St

Lloyd Center/
NE 11th Ave

Rose Quarter

Interstate/
Rose Quarter

Convention Center

Oregon Convention Center

NE 7th Ave

NE Oregon St

NE Hoyt St

Portland Transit Mall

Union Station (Amtrak)

Union Station/
NW 6th & Hoyt

Union Station/
NW 5th & Glisan

Greyhound Station

Old Town/Chinatown

Skidmore Fountain

NE Couch St
E Burnside St

Burnside Bridge

NW 5th & Couch

NW 6th & Davis

Oak/SW 1st

Urbsworks images

build it and they will come

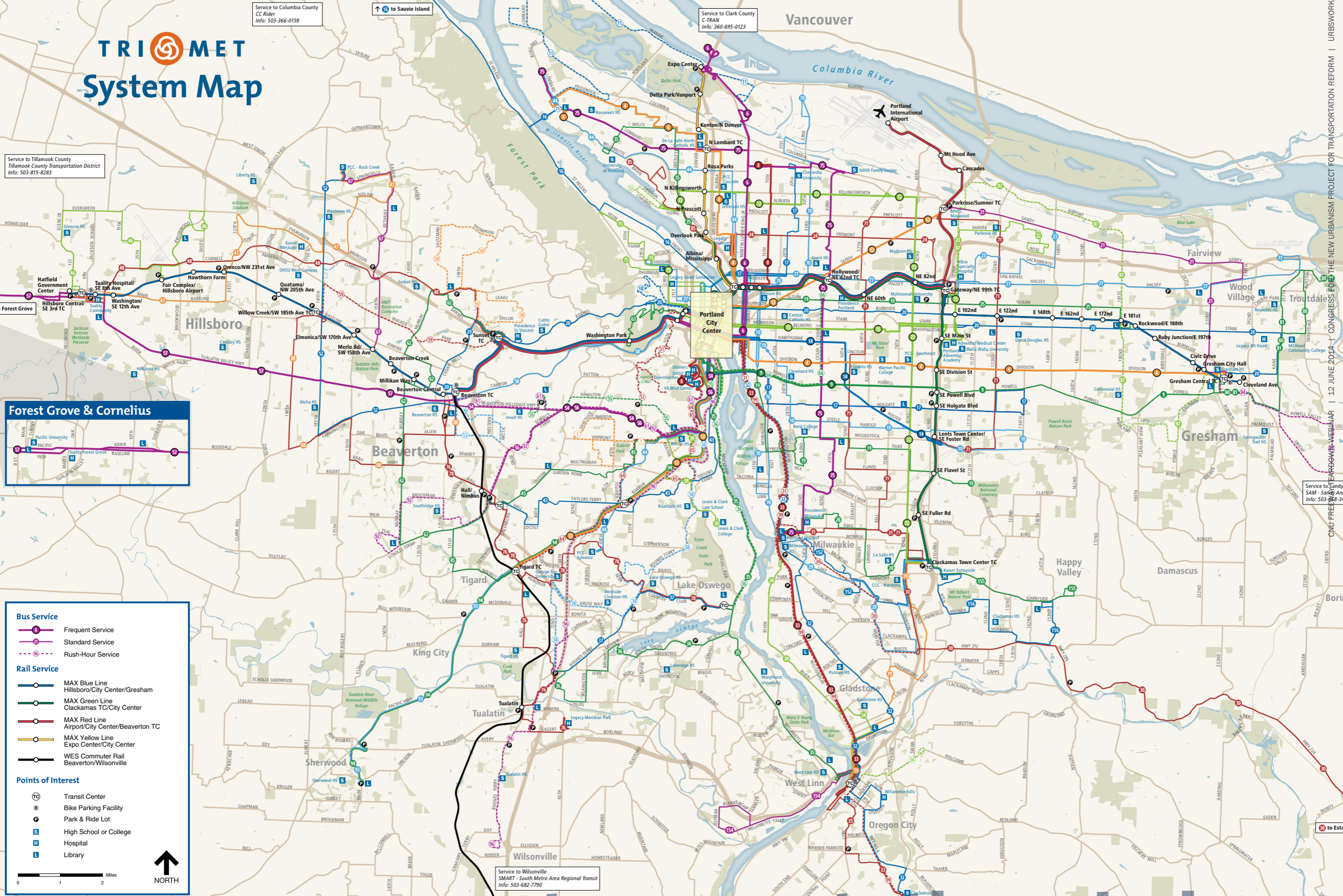**Greg Raisman**
about an hour ago near Portland ✕

20 MPH winds? Periods of heavy rain highlighted by flying leaves? Bah! Nothing. Went through the traffic signal at Madison and Grand as part of a group of 18 bicycle commuters.

Like · Comment · Share

transportation choices

TRIMET
System Map

Forest Grove & Cornelius

Bus Service
- Frequent Service
- Standard Service
- Rush-Hour Service

Rail Service
- **MAX Blue Line** Hillsboro/City Center/Gresham
- **MAX Green Line** Clackamas TC/City Center
- **MAX Red Line** Airport/City Center/Beaverton TC
- **MAX Yellow Line** Expo Center/City Center
- **WES Commuter Rail** Beaverton/Wilsonville

Points of Interest
- **TC** Transit Center
- **B** Bike Parking Facility
- **P** Park & Ride Lot
- **S** High School or College
- **H** Hospital
- **L** Library

NORTH

0 1 2 Miles

© 2013 TriMet, Portland, Oregon

transportation choices

Service to Columbia County
CC Rider
Info: 503-366-0159

↑ to Sauvie Island

Service to Clark County
C-TRAN
Info: 360-695-0123

Service to Tillamook County
Tillamook County Transportation District
Info: 503-815-8283

← to Forest Grove

Service to Yamhill County
Yamhill County Transit Area
Info: 503-472-0457 (ext. 122)

Service to Salem
Cherriots - Salem Keizer Transit
Info: 503-588-2877

Service to Wilsonville
SMART - South Metro Area Regional Transit
Info: 503-682-7790

Service to Canby
CAT - Canby Area Transit
Info: 503-266-4022

Service to Mollala
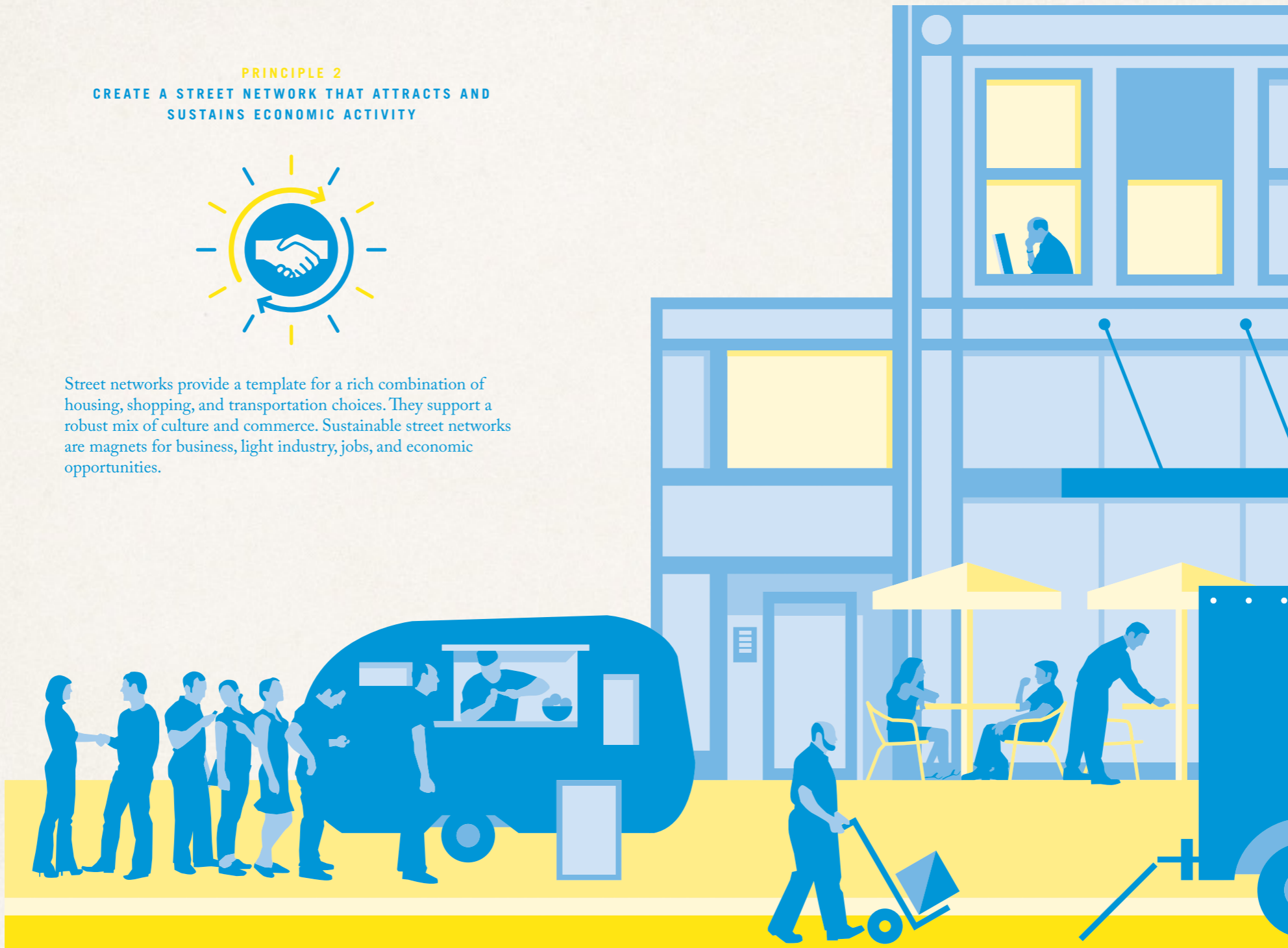South Clackamas Transportation District
Info: 503-632-7000

Service to Sandy
SAM - Sandy Area Metro
Info: 503-668-3466

to Estacada →

Vancouver
Columbia River
Portland International Airport
Portland City Center
Hillsboro
Beaverton
Tigard
Lake Oswego
Tualatin
Sherwood
King City
Wilsonville
Milwaukie
Gladstone
Oregon City
West Linn
Gresham
Fairview
Troutdale
Wood Village
Happy Valley
Boring
Damascus

PRINCIPLE 2
CREATE A STREET NETWORK THAT ATTRACTS AND SUSTAINS ECONOMIC ACTIVITY

Street networks provide a template for a rich combination of housing, shopping, and transportation choices. They support a robust mix of culture and commerce. Sustainable street networks are magnets for business, light industry, jobs, and economic opportunities.

"Street networks provide a template for a rich combination of housing, shopping and transportation choices."

"They support a robust mix of culture and commerce."

"Sustainable street networks are magnets for business, light industry, jobs and economic opportunities."
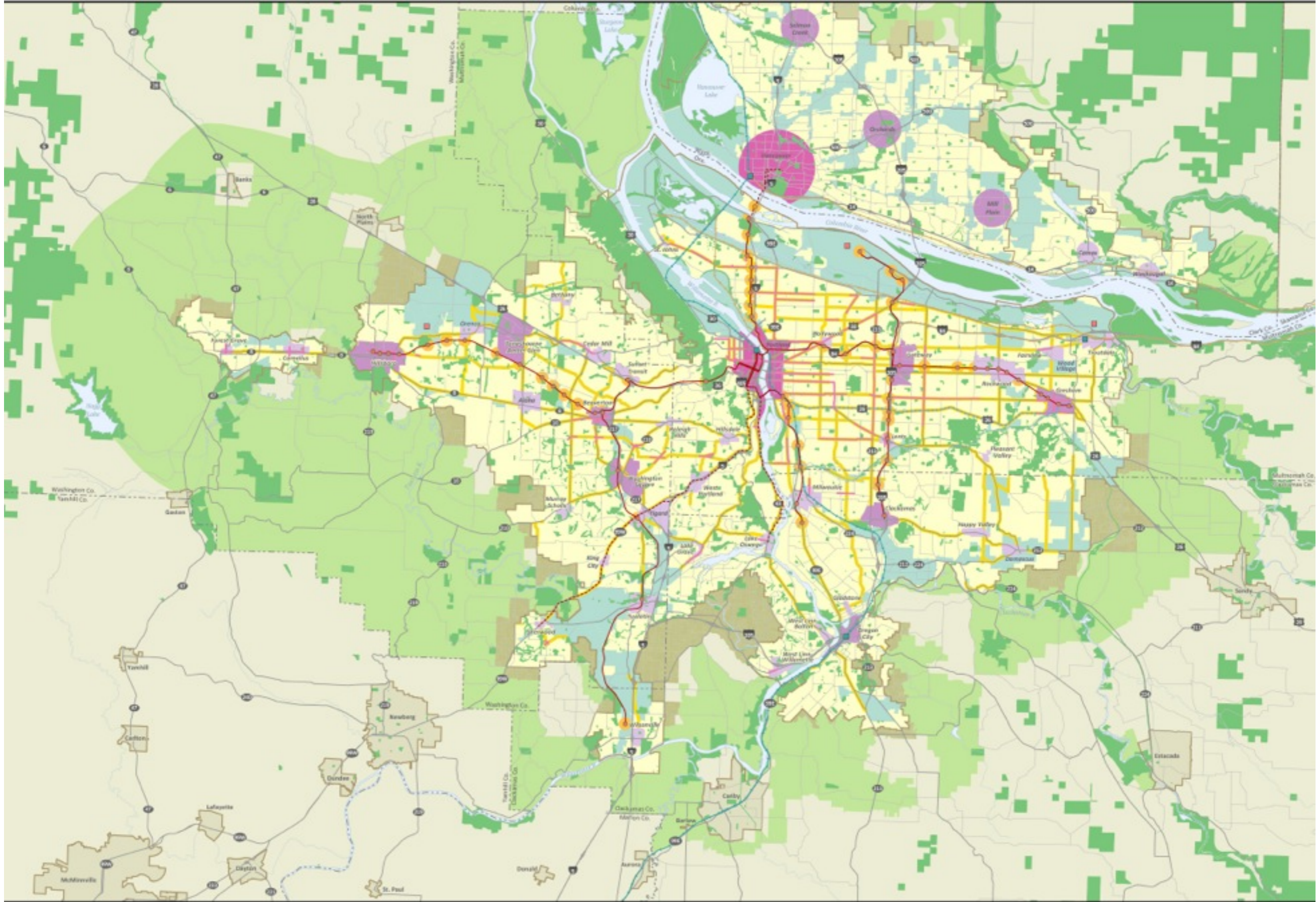
2040 Growth Concept Map

January 2013

miles
0   1   2   4

The information on this map was derived from digital databases on Metro's GIS. Care was taken in the creation of this map. Metro cannot accept any responsibility for errors, omissions, or positional accuracy. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, accompanying this product. However, notification of any errors are appreciated.

The Metro 2040 Growth Concept defines the form of regional growth and development for the Portland metropolitan region. The Growth Concept was adopted in December 1995 through the Region 2040 planning and public involvement process. This concept is intended to provide long-term growth management of the region.

The map highlights elements of parallel planning

efforts including the 2035 Regional Transportation Plan that outlines investments in multiple modes of transportation, and a commitment to local policies and investments that will help the region better accommodate growth within its centers, corridors and employment areas.

For more information on these initiatives, visit http://www.oregonmetro.gov/2040

Legend

- Central city
- Regional center
- Town center
- Station communities
- Main streets
- Corridors
- Employment land
- Parks and natural areas
- Neighborhood
- Rural reserve
- Urban reserve
- Urban growth boundaries
- Existing high capacity transit
- Planned high capacity transit
- Proposed high capacity transit tier 1
- Mainline freight
- High speed rail
- County boundaries
- Neighboring cities
- Airports
- Intercity rail terminal

Metro
Making a great place

PRINCIPLE 5
RESPECT THE EXISTING NATURAL AND BUILT ENVIRONMENT

The scale and orientation of streets in the network celebrate the unique local and regional characteristics of the natural and built environment. These include architectural features, climate, geography, topography, and history.

"The scale and orientation of streets in the network celebrate the unique local and regional characteristics of the natural and built environment."

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streets link important destinations
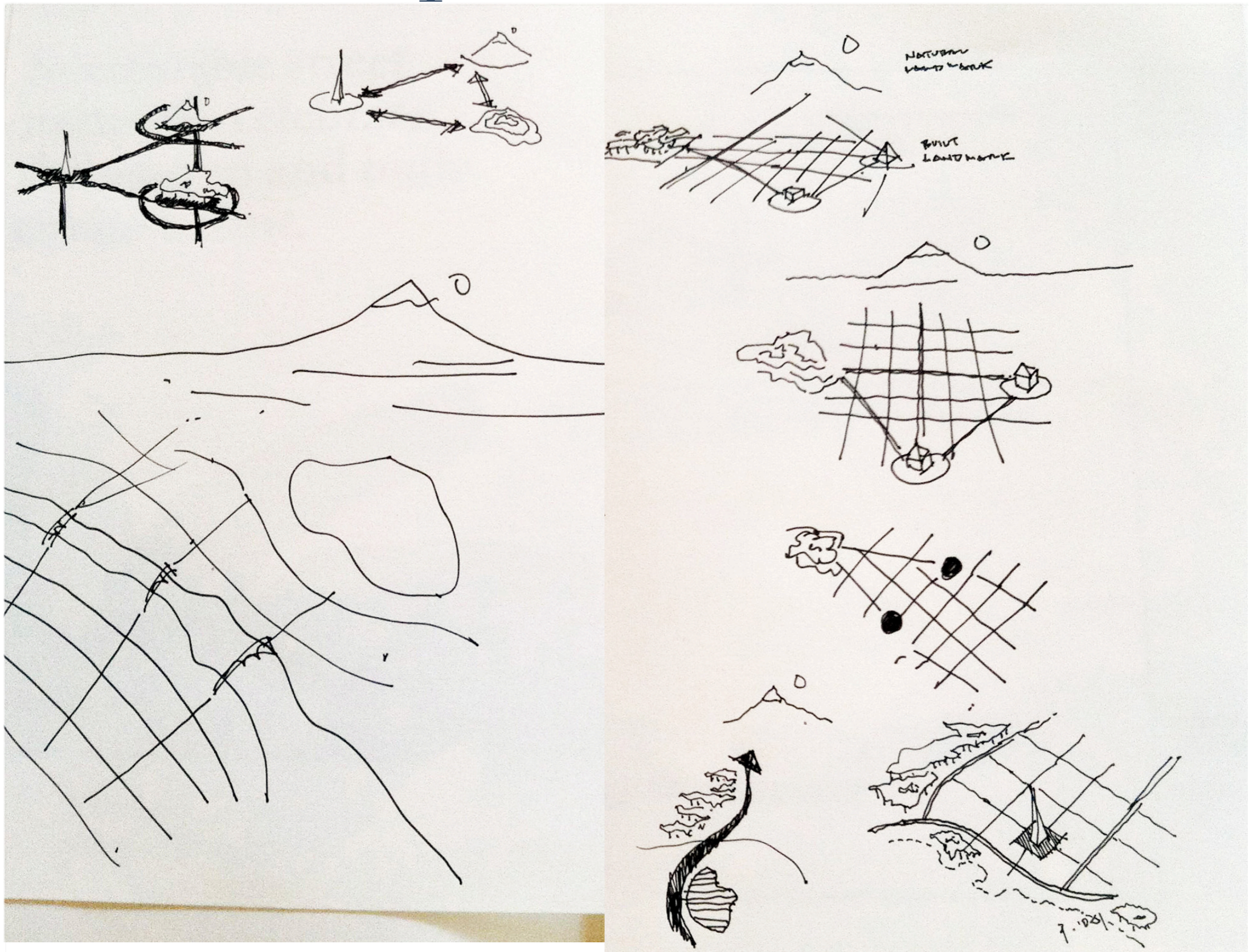
PRINCIPLE 4

INTEGRATE THE STREET NETWORK WITH NATURAL SYSTEMS AT ALL SCALES

A sustainable street network respects, protects and enhances the natural features and ecological systems of its urban environment. The result? A balanced and symbiotic community. It integrates stormwater treatment into street design and incorporates stormwater flow and wildlife habitat zones into the street network. The sustainable street network responds to natural features, resources, and systems by adjusting street density and connectivity. The sustainable street network considers the broad spectrum of relationships to natural systems, including those that are site specific, regional, and global.

*"A sustainable street network respects, protects, and enhances the natural features and ecological systems of its urban environment."*

"It integrates stormwater treatment into street design and incorporates stormwater flow and wildlife habitat zones into the street network."

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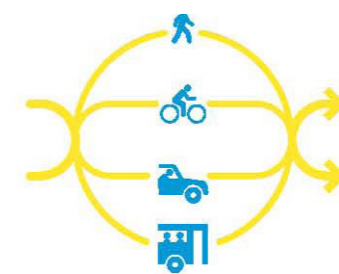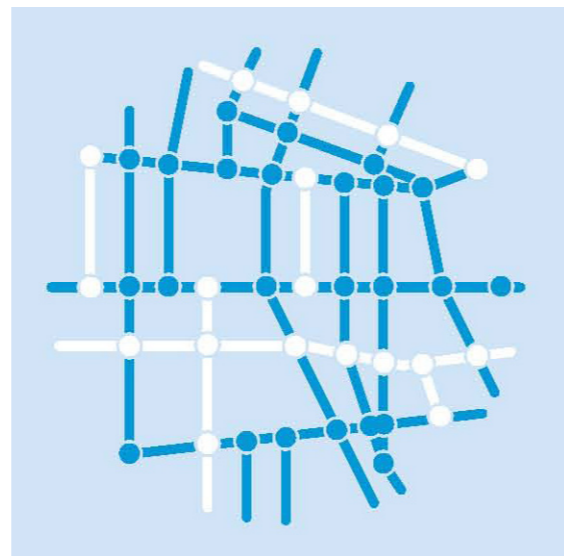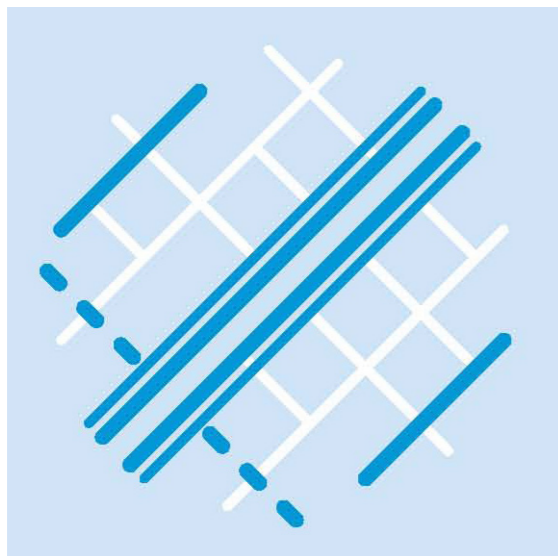
Urbsworks photo

bringing nature in

seven principles and six key characteristics
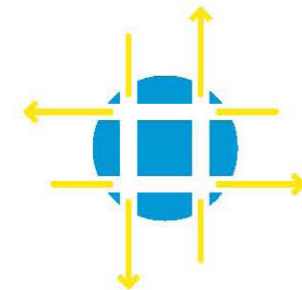
"Street networks maximize connectivity."

*"…create desirable places where multiple networks overlap."*

"…are inherently complex."

'…include major street that are designed to be the "Great Streets" of the community…'

"All streets are safe and walkable."

"…provide a wide range of street types, each with a role in the network."

How Portland, Oregon, removed a riverfront freeway in 1974 and relied on its street network to handle traffic, grow transportation choices, restore street vitality and become the economic center of the region

CNU PROJECT FOR TRANSPORTATION REFORM

Sustainable Street Network Principles

CONGRESS FOR THE NEW URBANISM
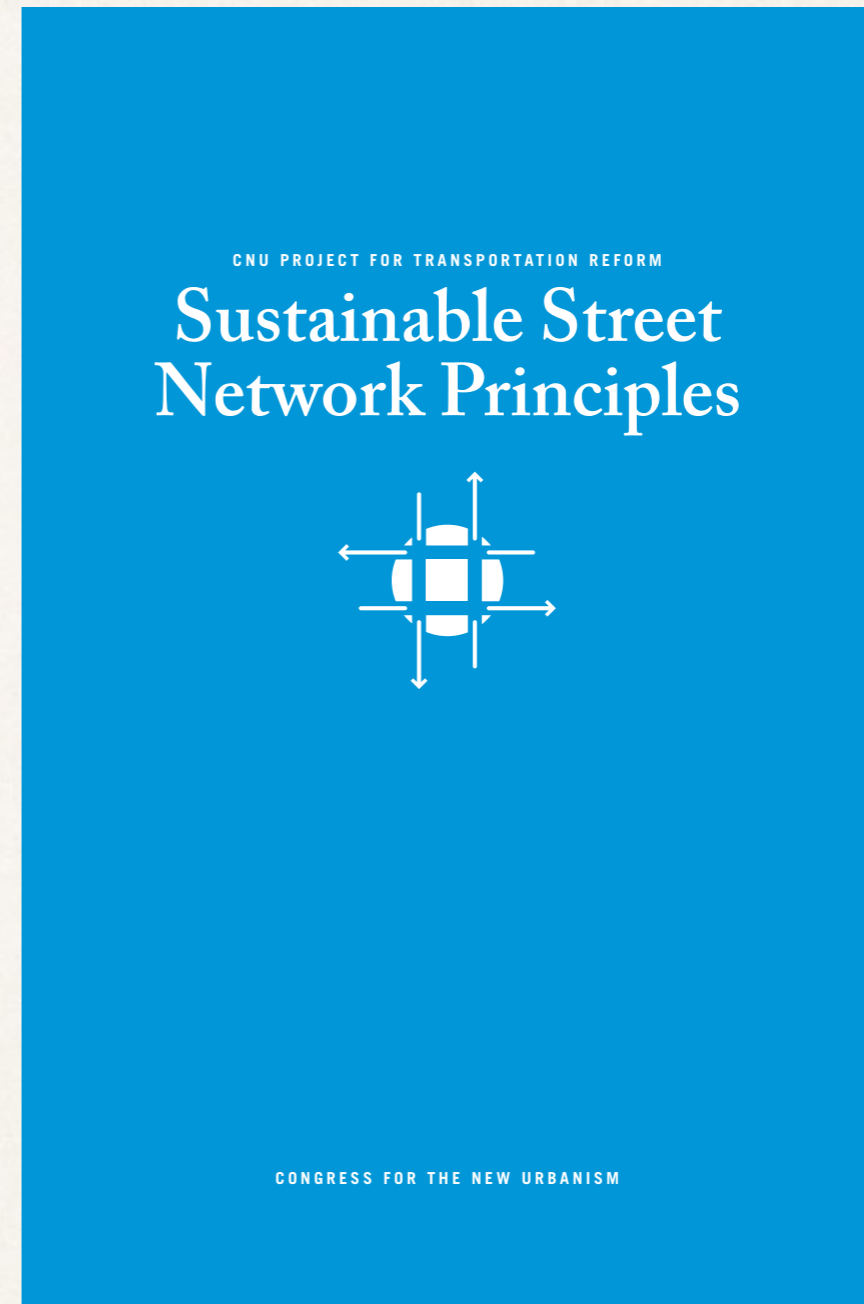
Thank you

additional information

✤ Congress for the New Urbanism Project for Transportation Reform
http://www.cnu.org/transportationreform

✤ MarcyMcInelly@gmail.com / urbsworks.com