AUTONOMOUS URBANISM: IMPACTS AND OPPORTUNITIES OF EMERGING MOBILITY TECHNOLOGIES

Go to slido.com

Enter the event code #UrbNext2019

Go to Room B (it should be at the top)
TEAM INTRODUCTIONS (1. Please tell us about yourselves on Sli.do)

- **NATE CORMIER**
  Manager Studio Director, Landscape Architecture, Rios Clementi Hale Studio

- **ALLYSHA LORBER**
  Senior Associate, Johnson, Mirmiran & Thompson

- **JEB DORAN**
  Senior Project Manager, Trimet

- **YADAN LUO**
  Landscape Designer, Olin

- **NOLAN LIENHART**
  Principal & Director of Planning and Design, ZGF Architects

- **FIONA CUNDY**
  Project Manager, Trimet

- **SCOTT CLARKE**
  Associate, Pivot Architecture
Workshop Outline

- Purpose and Expected Outcome – a charrette to generate ideas for a series of prototypical urban settings
- Defining Autonomous Urbanism
- Opportunities and Constraints
- Best Practices (National/State Level, Municipal/Local Level, Site Design)
- Charrette
- Reporting Back
Workshop Outline

- Purpose and Expected Outcome – a charrette to generate ideas for a series of prototypical urban settings

- Defining Autonomous Urbanism
  (2. Please share your thoughts on Sli.do)

- Opportunities and Constraints

- Best Practices (National/State Level, Municipal/Local Level, Site Design)

- Charrette

- Reporting Back

ASLA New Mobility and Emerging Technologies Subcommittee:

Autonomous urbanism recognizes the role that technology plays in the evolution of our cities and seeks to balance the integration of new technologies while prioritizing people over cars (driverless or otherwise), places over speed of travel, the environment over technology, and equity over rapid technological adoption.
Central Questions for the Workshop

- Where do current trends point to potential opportunities and impacts?
- How can we leverage the disruption of emerging technologies to advance locally defined goals?
- How do we promote safety and balance mobility among modes?
- How can we build resilience into urban places to address technological obsolescence and balance equity?
- As we build resilience, safety, and enhanced mobility into our cities, how do urban design patterns change?
- Does the relationship between Land Use & Transportation change?
Opportunities and Constraints of Autonomous Urbanism

Will we have an Eutopia or a Dystopia?
How has Transportation Evolved?
Drastically
How has Transit been Integrated into our Streets?
Where do we go from Here?
What are our Considerations?
What are the Potential Benefits or Impacts?

Where do the trends point?  Who gets to decide?
How does New Mobility affect Traffic?
How does New Mobility Affect Mode Separation?
How does New Mobility Affect Land Use?
What Infrastructure will we need?
How does New Mobility Affect Social Equity?

Mobility for All? or Expensive New Toy?
How does New Mobility Affect Safety?
Where do the Trends Point?
Transportation of the Future?

APTA’s 2018 Mobility Survey:

- 67% of Millennials who own a car would prefer not to
- 88% of Millennials desire a short commute
- 56% of Millennials feel access to transit is important in selecting where to live and work
- 65% of Millennials would use transit more if it were more convenient
- 60% Responders Support More Complete Streets for Transit Mobility even if Parking and Traffic Capacity is lost

VEHICLE ACCESSIBILITY & TRAVEL MODE
Case Study

• 10 regional demand models
• Common variables in models
• Range of results
  – VMT up 8%- 68%
  – Shared AVs mitigated VMT rise
  – Transit trips decrease
• Tested mitigations (pricing, incentives, Transit enhancements)
Fehr & Peers

AV IMPACTS
With and without countermeasures

THINK

MARKET DRIVEN
WITH COUNTERMEASURES

Vehicle Miles Traveled
Vehicle Trips
Transit Trips
It’s Not AV, It’s TNC

VMT changes from Technology

- 2004 – 2012 VMT declines
- 2012; VMT rise
- Uber launch
- App based; Customer experience
TNC impacts

New York City Congestion

Changes in ridership by mode, 2015 to 2016

- Subway
- Bus
- Ride services
- Bike
- Ferry

Change in Ridership (Annual, millions)
TCRP Research

Report 195

- Shared-Use Mobility Center
- TNCs; weekends & evenings
- not peak transit periods
- no relationship between TNC use & longer-term ridership
Suggests other factors;

- Economic displacement
- Transit Reliability
- Route Frequency

**ECONOMIC DISPLACEMENT**

- overlap between areas where home value increased and transit ridership decreased
- the same traditionally low-income neighborhoods experiencing economic displacement
- transit ridership grew in areas with minimal increases in real market home values.
- the same suburbs where many low to moderate-income earners relocated too

By Tom Mills & Madeline Steele - TriMet
space required to transport 60 people

car  uber  autonomous car
space required to transport 60 people

car

bus

bicycle
Rethinking the Bicycle

2 wheels
6 people
(and 1 dog)
Best practices: What guidance is there?
US DOT Position:

- “Wait and See” attitude
- Primary goal to improve safety
- Standardization is voluntary – yet encourages a unified adoption across all states
- Promotes regulatory flexibility
- Promotes integration into all Transportation Modes
- Leaves many considerations still open
- Looks to private sector to take the lead
How are States and MPOs reacting in their Long Range Plans?

- Some are recognizing emerging technologies
- Seen as an economic development tool
- Active workgroups coordinating locally, regionally, and nationwide
- Opportunity to improve real time data collection
- Considering telecommunication systems as a transportation asset to be managed
- Identifying challenges and opportunities without a clear path
- No Federally established performance measures
NACTO – Blueprint for Autonomous Urbanism

Center Transitway
A transitway in the center lanes would afford a priority space for transit unimpeded by other vehicles.

Access Lanes
Access lanes would provide space for pick-ups, drop-offs, and deliveries. As pedestrian-priority space, the lanes would be fully traversable and could have restricted access at certain times of day.

Green Infrastructure
Green infrastructure helps absorb stormwater and keep the city cool, in addition to providing green space for people to enjoy.

Future Mobility

Design Principles

• Make it Shared
• Prioritize Multi-Occupancy
• Active Transportation First
• Incentivize Low Carbon
Design Opportunities

Framework of Urban Typologies

- Off-street parking & Buildings
- Curb & sidewalk zones
- Transit exchanges
- Roadways
  - Transit corridors
  - Greenways
  - Shared space
Private Sector:

- Primary goal is to profit
- Technology is advancing more rapidly than acceptance
- New transportation pricing and financing structures
- Holistic view - Affecting all economic markets
- Public-Private Partnerships
- Awaiting procurement opportunities
- Expects change to be incremental
- Some more cautious than others
What does it mean for Planners today?

- Be innovative
- Be cautious
- Implement beta testing – Study outcomes
- Establish goals and performance measures to serve as benchmarks
- Consider indirect and cumulative effects
Typical Goals and Objectives

- Optimize Growth
- Social & economic
- Managing Land Use
- Equity; Access to Opportunity
- Managing Congestion;
- Energy efficiency
- Protect historic assets
- Enhance environmental assets
- Engage community; Local vision

Policies for emerging technologies should position new technologies as tools to achieve local goals
Federal, State, & Local Roles

Federal Level
- Safety testing & certification
- Funding for projects

State Level
- Vehicle Registration
- O&M on state roads
- Funding for projects

Local Level
- O&M on local roads
- Small funding resources

Agency Level (Transit)
- O&M transit
- Small funding resources
NACTO Concerns

• Preempts State & Local regulation
• AV not held to current safety standards
• No data share requirements
Data Share for Planning

Public Data needed;
- origins & destinations
- route
- travel speeds & duration
- date & time of travel
- # of occupants
- crash incidents

Private Data not needed;
- personal info
- individual trips,
- proprietary tech
- Processes data; collection, translation, & action
AV Task Force

State of Oregon

- HB 4063; legislation task force
- Primarily addresses
  - Licensing and Registration
  - Law enforcement & reporting
  - Cybersecurity
  - Insurance and liability
- Also consider
  - Land use
  - Infrastructure design
  - Public transit
  - Workforce
City Of Portland

Smart Autonomous Vehicle Initiative (SAVI)

AV’s should advance the outcomes/goals in Comprehensive Plan

- **Vision Zero**: Prioritize Safety on our streets particularly for most vulnerable travelers
- **Health**: Support active transportation and healthy communities
- **Economic Opportunity**: Support local economic growth and great places
- **Equity**: Ensure benefits accrue to disadvantaged people without increased burden
- **Congestion & Climate**: Reduce burden on the transportation system and environment
SAVI: Prioritize Use

Priority = People first; Shared modes
SAVI: Prioritize Use

Getting Ahead

Mayor & Transportation Commissioner announced Portland’s Smart Automated Vehicle Initiative (SAVI) in April 2017

Invites AV Testing and Piloting in Portland

Directed staff to prepare four elements:
1. Policy foundation
2. Request For Information (RFI)
3. Administrative Rule: framework for permitting, data collection
4. Public Engagement Strategy

“We want to do AV right.”
Potential Policies and strategies

“TriMet should position itself as the mobility manager for the Portland region – and is uniquely suited to do so.”

Current Initiatives:

- Next Gen Transit Signal Priority
- Rail Operations Optimization Tech
- Open Trip Planner Shared Mobility
- Hop Fastpass
- Electric Buses
Programming Transit

- Broker Partnerships;
  - **Private**: Shuttles, TNCs, Roll & walk
  - **Public**: LRT, commuter rail, BRT, bus service

- Information sharing

- Mobility Service provider
  - Connecting Private services to high capacity transit
  - Own/operate public services
Mobility as a service (MaaS)

Mobility Hub

- Primarily Transit Centers
- Range of type/location
- Features
  - Transit amenities
  - Bike amenities
  - Ped amenities
  - Ride-share amenities
  - SOV & AV storage
- Support Services
- Placemaking
Autonomous Rapid Transit?

**Staying Competitive**
- Prioritize speed and reliability; Dedicated ROW
- Transit moves more people; true regardless of AV
- AV operations; lower costs = more service
- Workforce training and transition
- Pilot projects to prepare; guide design decisions
- Partnerships; increase mobility options
Microtransit

- Update of old idea; Autonomy
- First-Last mile
- On-demand app interface
- Customer Experience
- Fixed route
- Service, peak & off peak
- PCC campus connection
Inspiration

EasyMile;
- Bishop Ranch, CA (CCTA)
- East Dublin, CA (LAVTA BART)
- Pena Station, CO (RTD)

Pena Station
- Xcel energy & Panasonic
- Smart city showcase
- TOD + micromobility
- Smart Grid; Clean energy
- Health amenities
- 3-min walk community

PENA STATION - DENVER, CO
“A true mixed-use, transit-oriented community for the NEXT generation.”
Inspiration

EasyMile:
- Bishop Ranch, CA (CCTA)
- East Dublin, CA (LAVTA BART)
- Pena Station, CO (RTD)

Pena Station
- Xcel energy & Panasonic
- Smart city showcase
- TOD + micromobility
- Smart Grid; Clean energy
- Health amenities
- 3-min walk community

(3. We covered a lot examples. Are there other places or studies that we should review? Please share them on Sli.do)
PRACTICES
Shifting Gears: An Urbanist’s Take on Autonomous Vehicles, 2018
SASAKI

Dynamic Superblocks
Prioritizing local roads for residents, service, and emergency vehicles allows them to be redesigned as shared streets.

Flexible Streets
Open data standards and real-time traffic management can allow the flow and use of lanes to change across different times and days, leading to more efficient and compact urban roadways.

Activated Podiums
Podium and underground parking in existing buildings could be converted to active uses, or replaced with innovative new building types that are not constrained by the need to provide parking.

Pedestrian Crossings
Sensors embedded in infrastructure communicate with cars to prioritize pedestrians based on the time of day, creating safer and more flexible crossings.

Downtown Destinations
Larger drop-off and pick-up zones can be designated at major destinations and events to reduce congestion at specific times.

Last Mile Connections
Autonomous shuttles at outlying stations support commuter transit, and increase access to downtowns while reducing congestion.

Reclaimed Public Spaces
AVs will free up space that can be reclaimed for transformative community spaces, green infrastructure, or infill development.

Vehicle service and storage
Facilities for servicing vehicles located in intersitial spaces free up valuable downtown locations, and provide capacity to calibrate the supply of cars on the road.
DESIGNING FOR FUTURE MOBILITY: DEVELOPING A FRAMEWORK FOR THE LIVABLE FUTURE CITY, 2017
PERKINS + WILL, Nelson\Nygaard, Lyft

WILSHIRE BOULEVARD, LA
Imaging the Streetscape of the Driverless future, 2019

OLIN LAB
- PERMEABLE ROAD
  - Road fault tolerance space
  - 80% impermeable road surface
  - Transportation infrastructure to green infrastructure

- FLEXIBLE RIGHT-OF-WAY
  - Autonomous Vehicle as a unit of transportation infrastructure
  - Real time adjustable right-of-way
  - Flexible street space
-PERMEABLE ROAD
- Road fault tolerance space
- 80% permeable road surface
- Transportation infrastructure to green infrastructure
ROAD FAULT-TOLERANCE SPACE | STANDARD DRIVE LANES

ROAD FOR HUMAN-DRIVING CAR

100% IMPERMEABLE SURFACE
In a standard 10' drive lane, the total needed width for two wheels is only 2'. The remaining 8' is fault-tolerance space for human drivers who won't be able to drive with perfect trajectory.
ROAD FAULT-TOLERANCE SPACE | STANDARD DRIVE LANES

ROAD FOR HUMAN-DRIVING CAR

100% IMPERMEABLE SURFACE

ROAD FOR DRIVERLESS CAR

80% PERMEABLE SURFACE

20% IMPERMEABLE SURFACE
80% PERMEABLE ROAD SURFACE

ROAD FOR HUMAN-DRIVING

ROAD FOR AUTONOMOUS DRIVING
80% PERMEABLE ROAD SURFACE | PLANTING STRATEGY

ROAD FOR HUMAN-DRIVING

ROAD FOR AUTONOMOUS DRIVING

TREE LEVEL

GROUND COVER LEVEL

RIVER BIRCH
Betula nigra

HONEY LOCUST
Gleditsia triacanthos

SWEET GUM
Liquidambar Rotundiloba

SHEEP FESCUE
Festuca ovina

NETTED CHAIN FERN
Muscar

GRAPE HYACINTH
Woodwardia areolata

BUFFALO GRASS
Bouteloua dactyloides
80% PERMEABLE ROAD SURFACE | CURRENT STREET
80% PERMEABLE ROAD SURFACE | TYPICAL FUTURE NYC STREET SECTION
80% PERMEABLE ROAD SURFACE | TYPICAL FUTURE NYC STREET SECTION
80% PERMEABLE ROAD SURFACE | CIRCULATION ALTERNATIVES

- AV BUS / REGULAR LANE
- REGULAR LANE
- LOW SPEED/DROP OFF LANE
- BIKE LANE
TRANSPORTATION INFRASTRUCTURE TO GREEN INFRASTRUCTURE

ROAD FOR HUMAN-DRIVING CAR

ROAD FOR DRIVERLESS CAR
TRANSPORTATION INFRASTRUCTURE TO GREEN INFRASTRUCTURE

ROAD FOR HUMAN-DRIVING CAR

ROAD FOR DRIVERLESS CAR
TRANSPORTATION INFRASTRUCTURE TO GREEN INFRASTRUCTURE

URBAN ECOLOGICAL CORRIDOR

URBAN HEAT ISLAND EFFECT

URBAN STORMWATER MANAGEMENT

URBAN LINEAR PARK NETWORK
PERMEABLE ROAD
- Road fault tolerance space
- 80% impermeable road surface
- Transportation infrastructure to green infrastructure

FLEXIBLE RIGHT-OF-WAY
- Autonomous Vehicle as a unit of transportation infrastructure
- Real time adjustable right-of-way
- Flexible street space
CURRENT
TRANSPORTATION INFRASTRUCTURE

VS

FUTURE
TRANSPORTATION INFRASTRUCTURE
CURRENT TRANSPORTATION INFRASTRUCTURE

FIXED RIGHT OF WAY

VS

FUTURE TRANSPORTATION INFRASTRUCTURE

FLEXIBLE RIGHT OF WAY
WAYMO AVS SYSTEM

Curb

Traffic Light

Speed Limit

resource: https://waymo.
THREE ELEMENTS OF TRANSPORTATION INFRASTRUCTURE

CURB
BOUNDARY BETWEEN PEDESTRIAN AND DRIVER

SPEED LIMIT
AUTHORITY OF CAR

TRAFFIC LIGHTS
AUTHORITY OF PEDESTRIAN
WHAT IF CURB
BOUNDARY BETWEEN PEDESTRIAN AND DRIVER

SPEED LIMIT BECOMES FLEXIBLE?
AUTHORITY OF CAR

TRAFFIC LIGHTS
AUTHORITY OF PEDESTRIAN
WHAT IF CURB BECOMES FLEXIBLE?

BOUNDARY BETWEEN PEDESTRIAN AND DRIVER
S LAS VEGAS BLVD & E HARMON AVE
MONDAY

DATA RESOURCE: GOOGLE MAP
S LAS VEGAS BLVD
& E HARMON AVE

DATA RESOURCE: GOOGLE MAP
S LAS VEGAS BLVD
& E HARMON AVE

DATA RESOURCE: GOOGLE MAP
S LAS VEGAS BLVD
& E HARMON AVE

DATA RESOURCE: GOOGLE MAP
<table>
<thead>
<tr>
<th>Time</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
<th>Sunday</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 AM</td>
<td>FOOD FESTIVAL</td>
<td>FOOD FESTIVAL</td>
<td>FOOD FESTIVAL</td>
<td>FOOD FESTIVAL</td>
<td>FOOD FESTIVAL</td>
<td>FOOD FESTIVAL</td>
<td>FOOD FESTIVAL</td>
</tr>
<tr>
<td>8 AM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 AM</td>
<td>MORNING TRAIL</td>
<td>OUTDOOR BRUNCH</td>
<td>OUTDOOR BRUNCH</td>
<td>OUTDOOR BRUNCH</td>
<td>OUTDOOR BRUNCH</td>
<td>OUTDOOR BRUNCH</td>
<td>OUTDOOR BRUNCH</td>
</tr>
<tr>
<td>12 PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ART EXHIBITION</td>
<td>ART EXHIBITION</td>
</tr>
<tr>
<td>6 PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>POP UP BEER</td>
<td>POP UP BEER</td>
</tr>
<tr>
<td>8 PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MOVIE NIGHT</td>
<td>MOVIE NIGHT</td>
</tr>
<tr>
<td>10 PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>OUTDOOR BRUNCH</td>
<td>OUTDOOR BRUNCH</td>
</tr>
</tbody>
</table>

Note: The table represents a weekly schedule with various activities scheduled throughout the day and week. The activities include food festivals, morning trails, outdoor brunch, and movie nights.
S LAS VEGAS BLVD & E HARMON AVE
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 AM</td>
<td>Morning Track</td>
</tr>
<tr>
<td>8 AM</td>
<td></td>
</tr>
<tr>
<td>10 AM</td>
<td></td>
</tr>
<tr>
<td>12 PM</td>
<td>Food Festival</td>
</tr>
<tr>
<td>2 PM</td>
<td></td>
</tr>
<tr>
<td>4 PM</td>
<td></td>
</tr>
<tr>
<td>6 PM</td>
<td>Pop-Up</td>
</tr>
<tr>
<td>8 PM</td>
<td>Playground</td>
</tr>
<tr>
<td>10 PM</td>
<td>Monday Party</td>
</tr>
</tbody>
</table>

**Monday**

10PM
WHAT IF SPEED LIMIT AUTHORITY OF CAR BECOMES FLEXIBLE?

TRAFFIC LIGHTS AUTHORITY OF PEDESTRIAN
MANHATTAN, NY

7 AM - 9 AM
PICK UP LOCATION

7 AM - 9 AM
DROP OFF LOCATION

DATA RESOURCE: KEPLER.GL
MANHATTAN, NY

5 PM - 7 PM
PICK UP LOCATION

5 PM - 7 PM
DROP OFF LOCATION

DATA RESOURCE: KEPLER.GL
WEST 33RD STREET
MANHATTAN, NY
WEST 33TH STREET
MANHATTAN, NY

9 AM
3 DRIVE LANE

SPEED LIMIT
40
WEST 33TH STREET
MANHATTAN, NY

12 PM
2 DRIVE LANE

SPEED LIMIT
15
Q & A
BREAK
CHARRETTE
THREE SITES

i. Neighborhood retail corridor
Division SE Portland, Scott Clarke w/PIVOT Architecture

ii. Urban mixed-use district
Broadway DT Portland/USPS site, Nolan Lienhart w/ZGF

iii. Suburban Rural industrial area
Tigard, Fiona Cundy w/Trimet
DIVISION TRANSIT CORRIDOR MAP

- **15 miles** of enhanced service from Downtown Portland to Gresham Central
- **42 Stations** with **83 Platforms** – 1/3 mile approximate station spacing
- **15% -20% average improvement** in travel times over existing service
- Utilization of existing bus stop infrastructure at OMSI, SWF, SW Lincoln Street and the Transit Mall
DIVISION CORRIDOR — ZONING

Inner Division (11th to 39th)
- Majority Commercial Mix Use (CM2)
- Some Residential (R1)

Middle Division (39th to 82nd)
- Majority Commercial Mix Use (CM2)
- Some Residential (R1)
- Little Commercial Employment (CE)

JADE (82nd to 109th)
- Even Mix of Commercial Mix Use, Residential/High Density, Some Residential (R1)

Midway (109th to 148th)
- Pocket of Commercial Employment at 112th
- Half Residential (R1)
- Commercial Mix Use in Area of 122nd

Outer Division (149th to 175th)
- 1/4 Residential (R2)
- 1/4 Commercial Mix Use
- 1/2 Commercial Employment
DIVISION STREET PLAN DISTRICT
THE GREEN LOOP

A Central Hub for All

Portland’s Central City is full of jobs, housing, and cultural attractions. The Green Loop will connect nearly a dozen districts, each with its own attractions, communities, and unique feel.
DESIGN CRITERIA & SPACE REQUIREMENTS
PASS THROUGH
NEIGHBORHOOD & CONTEXT

Districts

Pearl District

Old Town Chinatown
NEIGHBORHOOD & CONTEXT
Infrastructure & Barriers

- Broadway Bridge Site
- Lovejoy Viaduct
- Rail Yard
- Union: Broadway Ramp
- Car-Orientated Naito Parkway
- USPS Site
- Future Park
- Green Line
- Greyhound Bus Terminal
- MAX

Streets:
- NW Northrup
- NW Marshall
- NW Lovejoy
- NW Kearney
- NW Johnson
- NW Irving
- NW Hoyt
- NW Glisan
- NW Flanders
- NW Everett
- NW Davis
GUIDING PRINCIPLES

All aspects of the Broadway Corridor development, both public and private, will be:

**Accountable**: Transparent and delivers targeted and clear, enforceable equitable public benefits,

**Prosperous**: Foster wealth creation

**Resilient**: Demonstrate leadership in sustainability

**Connected**: Improve accessibility to and through the area for all.

**Vibrant**: Create a unique and stunning space that attracts, welcomes and reflects diversity, integrates private with public spaces

**Equitable**: Promote social equity, reducing disparities, and extending community benefits.
EQUITABLE DESIGN

Principles of Design for Racial & Social Equity*

• Engage and elevate the voices of underrepresented groups in each phase of planning & design

• Provide public spaces to just be, meaning:
  • Places that don’t feel like you need a specific purpose, activity or transaction to be there.
  • Places to sit that don’t appear to be connected to a building or a business
  • Places for groups to gather

• Create spaces in buildings and within the public realm to accommodate businesses serving low-income customers, particularly with respect to food and drink, including:
  • Affordable retail space in buildings
  • Designated spaces for food carts or other street vendors

• Avoid excessive or unnecessary spending on infrastructure that may limit resources available for other community priorities.

* These principles are the result of interviews and public engagement during Phases B2 and C1. As we develop the master plan, we will refine, expand, and translate them into specific site features or district design guidelines for future development projects in the Broadway Corridor project area.
PREFERRED CONCEPT

In a nutshell

Central open space, flexible in program & use

Limited vehicular access

Building terminus of park blocks and strong extension of park blocks
PREFERRED CONCEPT

Urban Form

East-west circulation

Portland-sized blocks

Connection to Union Station

Pearl

Old Town Chinatown
PREFERRED CONCEPT

Major Elements

GREEN LOOP

PARCELS

Steering Committee Meeting Packet Draft 11/21/2018
OPEN SPACE NETWORK

- Strong linear extension of the North Park Blocks
- Multi-purpose open space at the center
- Green loop moves through the north end of the site
- Elevated plaza at the Broadway Y
- Reconfigured Union Station plaza and pickup/drop-off

[Map showing locations such as Tanner Springs, NW Northrup, NW Marshall, NW Kearney, NW Johnson, NW Irving, NW Hoy, NW Glisan, PNCA, and Broadway Bridge.]
OPEN SPACE CHARACTER

Play

- TERRACE
- PNCA PLAZA
- UNION STATION PLAZA
- PARK

Broadway Corridor
Flexible Multi-Use Open Space

with Different Activities at Different Times of the Day & Season

- All-weather bleacher seating
- Basketball court
- At-grade seating
- Bleacher seating
- Public art opportunity
- Green Loop
- Open Area: Active or Passive Use
- Sports fields

Public Gathering

Sports and Rec.

- All-weather bleacher seating
- Stage
Public gathering at PARK
Sports and Rec. at PARK
• 12-mile alignment between downtown Portland & Tualatin

• Up to 13 stations

• Serves cities of Portland, Tigard, Durham, Tualatin & surrounding communities

• Easy 30-minute ride between Bridgeport Village & downtown Portland
PROJECT PURPOSE

By 2035, we could see:

- 75,000 new residents along the Southwest Corridor
- 17% increase of congestion on I-5 between Portland and Tigard
- 43,000 riders on the line on an average weekday

11,300 WORKERS

23,800 people commute between Portland and Tigard/Tualatin

12,500 WORKERS

...daily!
CONNECTING GREAT PLACES
WORKSHOP FOCUS AREA
LAND USE
EXISTING CHARACTER
EXISTING CHARACTER
EXISTING CHARACTER