# Transit and Active Transportation Use for Non-commute Travel among Portland TOD Residents (22-03788)

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**NITC** NATIONAL INSTITUTE for TRANSPORTATION and COMMUNITIES — Portland State UNIVERSITY — **TREC** TRANSPORTATION RESEARCH and EDUCATION CENTER

## Who did we survey?

*Over 1,400 people living in 44 transit-oriented developments (TODs) throughout the Portland, OR region. Surveys conducted in 2005, 2007, 2010/11, 2014, and 2018/19, usually within 1-3 years of construction.*

**West Suburbs (9 TODs, n=577)**
| | |
|---|---|
| Intersection density | 256/sq. mi. |
| WalkScore | 65 |
| Weekly Transit Trips within ½ mile | 2,491 |

**Portland Center (11 TODs, n=292)**
| | |
|---|---|
| Intersection density | 412/sq. mi. |
| WalkScore | 87 |
| Weekly Transit Trips within ½ mile | 7,008 |

**Portland East (11 TODs, n=265)**
| | |
|---|---|
| Intersection density | 244/sq. mi. |
| WalkScore | 75 |
| Weekly Transit Trips within ½ mile | 4,344 |

**West Suburb Centers (5 TODs, n=75)**
| | |
|---|---|
| Intersection density | 260/sq. mi. |
| WalkScore | 77 |
| Weekly Transit Trips within ½ mile | 4,636 |

**Gresham (8 TODs, n=204)**
| | |
|---|---|
| Intersection density | 255/sq. mi. |
| WalkScore | 89 |
| Weekly Transit Trips within ½ mile | 5,009 |



**Legend**
- TOD Locations
- Portland Center
- Portland East / Outer
- Gresham
- West Suburb - Center
- West Suburb - Other
- Light Rail
- Freeways
- Major Arterials
- Water
- Center areas
- Portland city area
- Metro Area

- 37 of the 44 TODs were part of Portland Metro's TOD program, receiving financial incentives for their development. 12 had affordable units and two were age-restricted senior housing
- Most served by light rail; some instead by streetcar, commuter rail, and/or high-frequency bus.
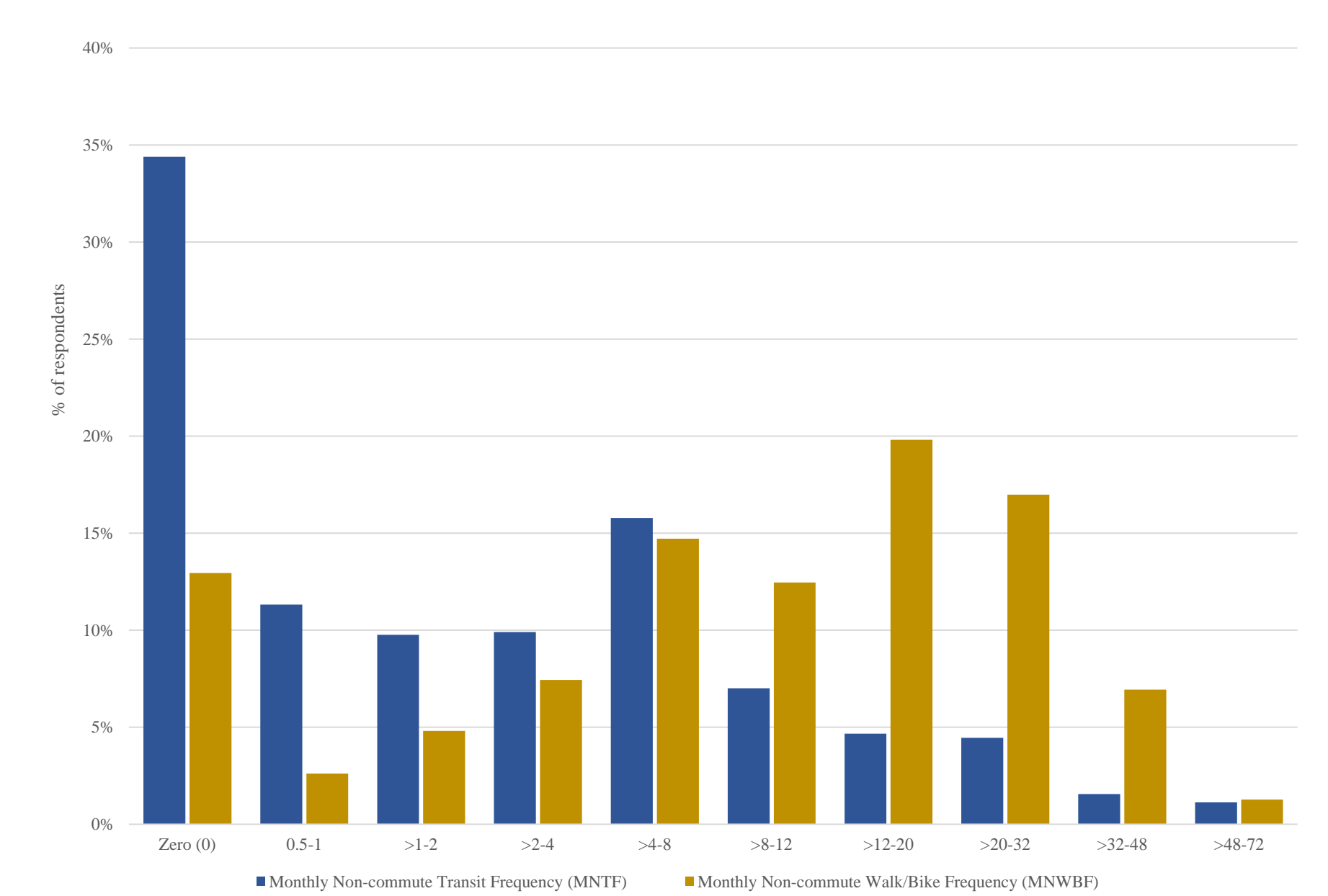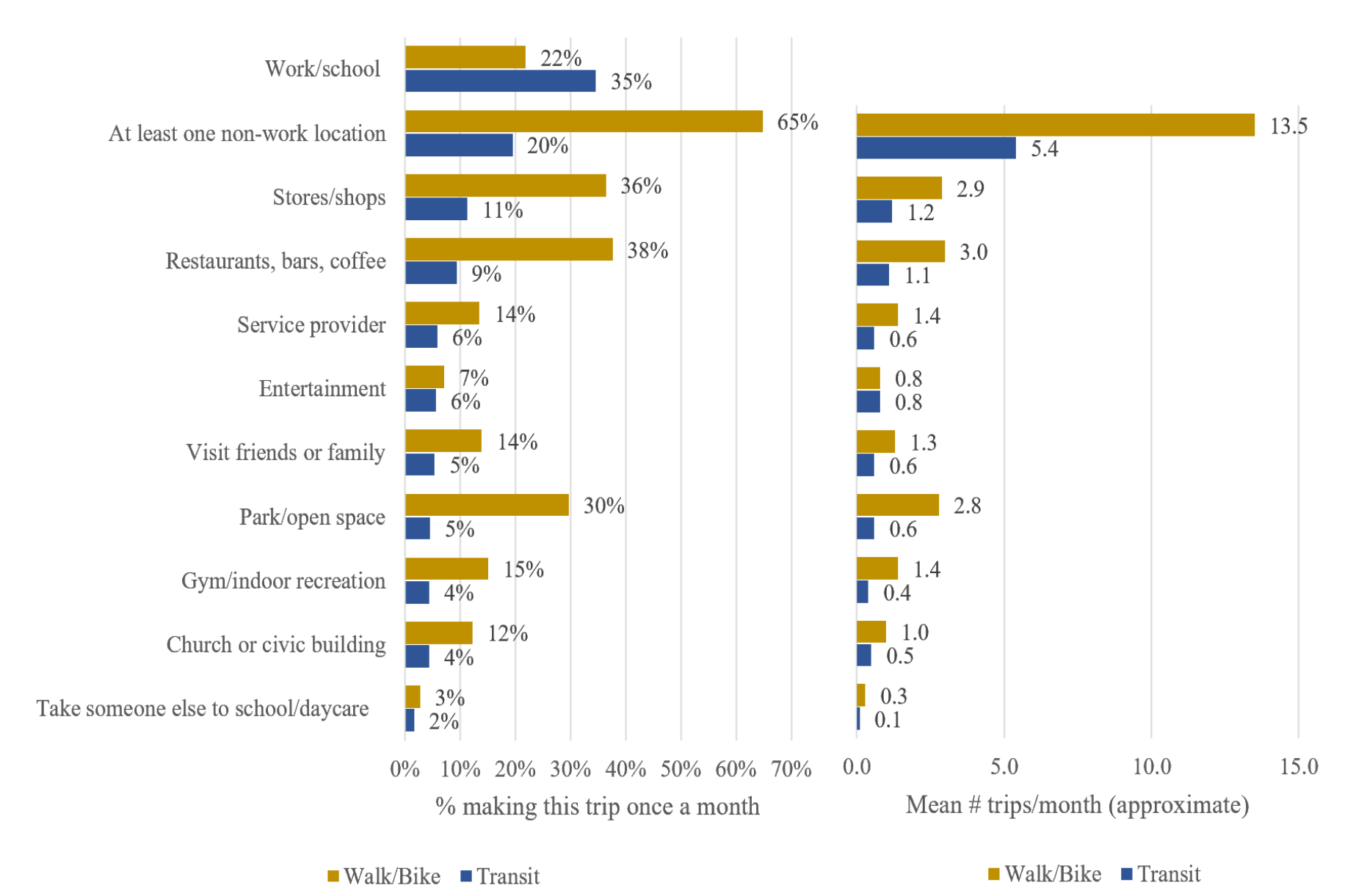
**About the respondents:**
- Response rates ranged from 13% to 59% at the building level.
- TOD households were smaller than the surrounding cities. Nearly half of respondents (46%) lived in one-person households; 10% had children under 16.
- 22% of our sample of TOD residents were over 65 years of age.
- The incomes of the TOD residents were similar to that found citywide; 17% had incomes below $25,000. The median income group was $50,000 to $74,999. The TOD residents did have higher levels of education; nearly two-thirds (63%) had a four-year college degree.

**About the analysis:**
- We created two variables based on the stated typical frequency of going to list of destinations from home: Monthly Non-commute Transit Frequency (MNTF) and Monthly Non-commute Walk/Bike Frequency (MNWBF).
- We estimated binary logit models for whether respondents used transit or active transportation at least once a month (propensity) and, for those that did, linear regression models for frequency of doing so.

## How often did the TOD residents use transit, walk or bike to non-commute destinations from home?

**Transit: Rarely.** Only 20% took transit to at least one destination type at least once a month.
**Walk/Bike: More often.** 65% walked or biked at least once a month.



% making this trip once a month / Mean # trips/month (approximate)

| Destination | Walk/Bike % | Transit % | Walk/Bike mean | Transit mean |
|---|---|---|---|---|
| Work/school | 35% | 22% | | |
| At least one non-work location | 65% | 20% | 13.5 | 5.4 |
| Stores/shops | 36% | 11% | 2.9 | 1.2 |
| Restaurants, bars, coffee | 38% | 9% | 3.0 | 1.1 |
| Service provider | 14% | 6% | 1.4 | 0.6 |
| Entertainment | 7% | 6% | 0.8 | 0.8 |
| Visit friends or family | 14% | 5% | 1.3 | 0.6 |
| Park/open space | 30% | 5% | 2.8 | 0.6 |
| Gym/indoor recreation | 15% | 4% | 1.4 | 0.4 |
| Church or civic building | 12% | 4% | 1.0 | 0.5 |
| Take someone else to school/daycare | 3% | 2% | 0.3 | 0.1 |



- Monthly Non-commute Transit Frequency (MNTF)
- Monthly Non-commute Walk/Bike Frequency (MNWBF)

## What influenced the use of transit, walk/bike for non-commute travel?

*Attitudes and housing preferences are important. Transit service does matter, along with car ownership.*

| | Transit | | Walk/Bike | |
|---|---|---|---|---|
| **Variable** | Propensity | Frequency (if >0) | Propensity | Frequency (if >0) |
| **Demographics** | | | | |
| Age | - | - | - | |
| Physical or anxiety condition: Walking outside the home | - (* w.a.) | - (* w.a.) | - | - (* w.a.) |
| Lives in household with fewer cars than adults | + (* w.a.) | + | + | + |
| Female | | | | - |
| Works or goes to school outside of home | | | | - (* w.a.) |
| Has a pet that needs regular walks | | | | + |
| Rents current home | - (* w.a.) | | | |
| Has a college degree | + (* w.a.) | | + (* w.a.) | |
| Income | | | - | |
| **Built environment and transit accessibility** | | | | |
| Building style: Mixed use | | | + | |
| Building style: Apt/Condo without mixed use | | | | |
| Building style: Townhome | | | | |
| Population density (000) | - (* w.a.) | | | |
| Intersection density | | | + | + |
| Jobs accessible on transit in 30 minutes (000) | + | + | | |
| Bike infrastructure | | | + (* w.a.) | |
| Distance to downtown Portland | | | + | |
| **Modal Attitudes** | | | | |
| Transit attitude score | + | + | | |
| Walk attitude score | | | + | + |
| Bike attitude score | | | | + |
| I need a car to do many of the things I like to do | | - | | |
| I often use the telephone or the Internet to avoid having to travel somewhere | + | | | |
| **Housing preferences** | | | | |
| Access to transit | + | | | |
| Easy access to the freeway | - | | - | - |
| Shopping areas within walking distance | | | + | + |
| Lots of interaction among neighbors | | | - | |
| Lots of people out and about within the neighborhood | | | | + |
| Parks and open spaces nearby | | | + | + |
| High quality K-12 schools | + | | | |
| Relatively new living unit | + | | | |

\* w.a.: only significant in models *without attitudes* and housing preferences.
+ indicates a positive association with propensity or frequency, while - indicates a negative association

## What about self selection?

*Residents who had a strong preference for living within walking distance of shops walked/biked to nearby places more often.*

Attitude towards walking was an influential factor (in propensity and frequency) for all residents, regardless of preference for living in a walkable areas. Those with a strong preference for walkability were more sensitive to intersection density and bike infrastructure, indicating that the built environment may matter, even after controlling for self-selection..

## What does this mean for practice and policy?

*For TODs to reach their full potential, residents need to use transit, walking and bicycling for more than just commute trips.*

Significant factors that public agencies can directly influence include better transit service, greater street connectivity, and including a mix of uses within TOD buildings. Complementary policies that encourage reduced auto ownership may be necessary to increase non-commute transit use significantly. Transit planners may need to focus on non-work accessibility when planning service expansion or changes.

## Acknowledgements