Innovative Solutions for Regional Transportation: Regional Resilience Track

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Key Concept: Resilience

• Resilience originated in ecology as a way to describe the capacity or ability to survive or maintain basic functions in the face of stress or disturbance (Holling 1973)

• Resilience capacity may be understood as (LSE 2022):
  • Shock absorbing and coping
  • Evolving and adapting
  • Transforming

• Response diversity is the number of available options for responding effectively to a stressor/disturbance/shock (LSE 2022)
Key Concept: Transport Justice

• Martens argues that transportation’s “social meaning” is access, which has a unique “enabling character” that makes it “an indispensable resource shaping one’s life path”

• Martens applies the Sen/Nussbaum capability approach to emphasize the experience of agency, choice, and opportunity in leading a dignified life

• Martens argues that a just society will protect its citizens from “the exclusionary violence that is embedded in non-inclusive transportation systems.”

“Put simply, accessibility – connections between people and opportunities – is the most important economic and social benefit created by a transportation system and it facilitates participation in activities that individuals need to lead a meaningful life” – Karner, Levine, Dunbar, and Pendyala (2023)
Traditional transport planning “at best maintains existing differences in all dimensions and at worst leads to a continuous growth in inequalities in terms of travel speed, potential mobility, accessibility, and revealed mobility, between persons with access to, and persons excluded from, the dominant car-road system”

Litman, **Breaking the Cycle of Automobile Dependency**, Planetizen (2019)
Key Concept: Transport Justice

When car-centric environments are viewed through this lens [of disabling environments - places that exclude people, or make their participation more difficult or more expensive compared to that of others], it becomes clear that they do not benefit everyone equally. Car-first planning, at its essence, perpetuates the idea that transport networks are provided for those with motor vehicles, who are therefore freely mobile with their choices. It is exclusionary, overlooking the needs of portions of the population: children, the elderly, those living on a limited income, and, importantly, individuals with a physical disability.

Bruntlett and Bruntlett (2021); see also Cathy Tuttle’s work on car master planning (https://usa.streetsblog.org/2022/06/07/the-brake-why-every-city-needs-a-car-master-plan/ and https://pdxscholar.library.pdx.edu/trec_seminar/224/)
Key Concept: Public Transportation

• A system of services that are organized, run, and/or paid for by the government, available to the general public, and dedicated to the transport (movement, conveyance) of people

• Beyond these general parameters, the definition of public transit is up to us and a reflection of our shared values (ideals, goals, & priorities)

Don't tell me what you value, show me your budget, and I'll tell you what you value.
– President Biden

What is transit’s purpose?
What counts as adequate and useful transportation?
What kind of city do you want?
You, and your community, get to choose “what” you want and “why”
-Jarret Walker, Human Transit (2012)
### Key Concept: Public Transportation

#### Purpose
- Social Service
- Enable Upward Mobility, Enhance Quality of Life
- Resource-Efficient Movement
- Enable High Utilization of Assets
- Limit Space Needed for Travel Lanes & Parking
- Catalyst for Economic Development & Land Use Changes
- Stimulate Densification, Transit-Oriented Development

#### Performance Measures
- Activity Participation
- Trips Per Capita
- Riders Per Hour
- Cost Per Vehicle Hour
- Cost Per Trip
- Emissions Per Trip
- Foregone Parking Expansion
- Retail Sales
- Dwelling Units Per Acre

Key Concept: Public Transportation

• Seven Demands of Useful Transit
  • It takes me *where* I want to go
  • It takes me *when* I want to go
  • It is a good use of my *time*
  • It is a good use of my *money*
  • It *respects* me in the level of safety, comfort, and amenity it provides
  • I can *trust* it
  • It gives me *freedom* to change my plans

Frequency is Freedom

The Essential Task of Transit: Abundant Personal Mobility Without Personal Vehicles Over Distances Too Far To Walk

-Jarret Walker, Human Transit (2012)
Key Concept: Public Transportation

It *can* be safe, dignified, sustainable, resource-efficient, affordable, convenient, seamless, broadly appealing & widely used – we know this to be true, because we have many world class domestic & international examples.

This week we’re joined by Professor Ralph Buehler of Virginia Tech, who talks with us about the German transport concept of Verkehrsverbund. The word translated to English means “transport network.” We discuss where the first Verkehrsverbund was formed and how more integrated systems could make transport in the United States more efficient and connected. There’s also a discussion about docked bike share as well as how we can think about mobility as a service platforms in the future and their relationship to existing transport systems.

Key Question: What Problems Are you Trying to Solve?
Are you asking the right questions? Are you asking the questions you want to be asking?

How do we make safer cigarettes? → How do we free ourselves from smoking?

Hat tip to Professor Peter Norton, The Dangerous Promise of the Self-Driving Car, CityLab (2021)
“EVs are here to save the car industry, not the planet, that is crystal clear”
- Jason Slaughter, CBC News (2022)

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Key Question: What Problems Are you Trying to Solve?
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How do we help people accumulate more stuff? → How do we help people experience more freedom?

Sen & Nussbaum’s capability approach helped broaden and shift development accounting, from income-centered (e.g., GDP/capita) to people-centered measures (e.g., HDI).
Key Question: How can you raise expectations for transportation and quality of life in your community?

Are there forces lowering expectations?

Few with whom we spoke held up Uber as a real solution to D.C.’s transportation, racial, economic, or employment challenges. Yet their expectations of the city and its democratic institutions were even lower. These people did not trust Uber to solve problems of racial polarization, stalled economic mobility, or concentrated poverty, but neither did they expect that such problems might be solved through public provision, urban public policy, or – dare we say – “politics.” This is the foundation of the book’s argument: that Uber’s success in D.C. and elsewhere hinges on exploiting a political and infrastructural vacuum and, in so doing, redefining what people expect from cities and the urban public realm.”

“...the ride-hailing industry’s growth has never been a sign of urban economic strength or urban innovation and has always been a sign of urban weakness, desperation, and low expectations.”
Alternative approaches to community and economic development (Asset-Based Community Development, the Community Capitals Framework, the Rural Wealth Creation and WealthWorks model, and Comprehensive Rural Wealth Framework) as well as insights from Rural Placemaking and the New Ruralism Initiative have helped to reorient and broaden our efforts to support resilient and thriving rural communities.

<table>
<thead>
<tr>
<th>Traditional Approach</th>
<th>Alternative Approach</th>
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<tbody>
<tr>
<td>Narrower Focus on Capital Types</td>
<td>Broader Focus on Capital Types</td>
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<tr>
<td>• Financial</td>
<td>• Financial</td>
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<tr>
<td>• Physical (or Built)</td>
<td>• Physical (or Built)</td>
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<tr>
<td>Identify Deficiencies to Assess Needs</td>
<td>Identify Capacities to Map Assets</td>
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<tr>
<td>Building Jobs to Address Weaknesses</td>
<td>Building Jobs Around Strengths</td>
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<tr>
<td>Supply-Driven</td>
<td>Demand-Driven</td>
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<tr>
<td>➔ Focus on Supply Chains</td>
<td>➔ Focus on Wealth Creation Value Chains</td>
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"Building jobs on our strengths" – New Ruralism Initiative (2020)

Key Question: How can you raise expectations for transportation and quality of life in your community? Are there forces lowering expectations?
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<tbody>
<tr>
<td>Narrower Focus on Economic Activities</td>
<td>Broader Focus on Economic, Social, Cultural, and Environmental Activities</td>
</tr>
<tr>
<td>Strategies Focused on Creating a “Business-Friendly Environment”</td>
<td>Strategies Focused on Creating a Higher Quality of Life</td>
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<tr>
<td>→ Tax incentives to attract/retain employers and reduce labor costs</td>
<td>→ Investments to make a place attractive to live, work, and do business in</td>
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<tr>
<td>Narrower Focus on Growth</td>
<td>Broader Focus on Development</td>
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<tr>
<td>Shorter-Term (Turnover, Extraction)</td>
<td>Longer-Term (Sustainable Wealth Creation)</td>
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<tr>
<td>Narrower Goals &amp; Measures</td>
<td>Broader Goals &amp; Measures</td>
</tr>
<tr>
<td>• Retain Existing Businesses &amp; Jobs</td>
<td>• Retain Existing Businesses &amp; Jobs</td>
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<tr>
<td>• Attract New Business &amp; Create Jobs</td>
<td>• Attract New Business &amp; Create Jobs</td>
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<tr>
<td>• Increase Per Capita Income</td>
<td>• Increase Per Capita Income</td>
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<tr>
<td>• Increase Local Tax Base</td>
<td>• Increase Local Tax Base</td>
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<td></td>
<td>• Increase Quality of Life &amp; Sense of Place</td>
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<td></td>
<td>• Strengthen Community Pride</td>
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<td></td>
<td>• Build Stronger Regional Networks</td>
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Key Takeaways

• **Tradeoffs:** Driving can be incredibly convenient, practical, useful, customizable, & empowering, but it is also the most energy-intensive & least sustainable way to get around, takes up a lot of space that could be used for other things (eg housing, businesses, parks), is expensive, requires vision & other motor & cognitive skills, & annually leads to approximately 40,000 deaths domestically & over 1 million deaths globally plus many more serious injuries.

• **Balance:** A more balanced approach to transportation supports energy efficiency, sustainability, and resilience, as well as goals for livability, affordability & stewardship of public resources, equity, health & safety, & access to open spaces.

• **Outlier:** The U.S. is an outlier in the degree to which we rely on driving for personal travel, and is diverging from our peer nations in trends for key energy, sustainability, health & safety outcomes.
Key Transportation Strategies to Support Resilience Capacity and Response Diversity

• University Basic Mobility & Mobility Wallets
• Capping or Eliminating Transit Fares
• Vehicle Subsidy Programs (Electric Bicycles and Cars)
• Sidewalk Network Improvements
• Public Transportation Improvements
• Traffic Calming
• Additional Reforms
  • Equity-Based Emergency Management & Disaster Response
  • Reallocation of Roadway Space to Improve Transit, Bicycling, and Walking
  • Parking and Road Use Pricing

Key Transportation Strategies to Support Resilience Capacity and Response Diversity

• **Microtransit** modernizes the rural transit toolbox, which in the past has often been limited to the choice between low-performing and circuitous one-way fixed route loops or inconvenient dial-a-ride services that require advance reservations and long wait times.

• Its on-demand nature makes it a type of flexible transit, but its emphasis on the pooling of trips distinguishes it from taxi or ridehailing services.
Key Transportation Strategies to Support Resilience Capacity and Response Diversity

**Fixed Transit:**
- Public Transportation Based Upon Set Stops, Routes, and Schedules
- No Advance Reservations
- Excels in Traditional Output-Focused Performance Measures
  - (Service Efficiency & Effectiveness)
- Best Suited for Areas of Higher Density and Demand
- ADA Complementary Paratransit Requirement

**Flexible Transit:**
- Public Transportation Based Upon Variable Stops, Routes, and Schedules
- Requires Advance Reservations
  - Phone (Dial-a-Ride) or App-Based (Microtransit) Ride Requests
- Excels in Quality-Focused Performance Measures
  - (Transit Availability, Comfort & Convenience)
- Best Suited for Areas of Lower Density and Demand
- No ADA Complementary Paratransit Requirement

The only places where flexible service is the most efficient way to achieve ridership are places with very, very low transit demand, like small towns, rural areas, and the lowest-density suburbs. If there is no demand for fixed routes that could carry more than 4 boardings per driver hour, you might as well run flexible – Jarett Walker, 2019, (emphasis in original)
Key Transportation Strategies to Support Resilience Capacity and Response Diversity

Sample Spectrum of Flexible and Fixed Transit Services In Relation to Ridership

- Shared Taxi
- Dial-a-Ride – Microtransit
- Flex Route – Deviated Fixed
- Fixed Route & Schedule

Flexible vs. Fixed

Service Frequency: 3/Hour, 7/Hour, 10/Hour, 20/Hour

- 3/Hour: 11,232/Year
- 7/Hour: 26,208/Year
- 10/Hour: 37,440/Year
- 20/Hour: 74,880/Year

Note: Graphic created by WTI based upon information for the Dallas Area Rapid Transit system provided in the 2013 Transit Capacity and Quality of Service Manual (Exhibit 2-26: DART Criteria for Fixed-Route and DRT Service). Riders per hour translated into annual estimates by WTI based upon 12 revenue hours per day, 6 days of service per week, and 52 weeks of service per year.
What not always choose fixed route transit?

- Significant Access Burdens
  - Only Useful for Trips Starting/Ending Near Fixed Stops or For Those Willing/Able to Undertake Access Trips
- Riders Must Adhere to Schedules & Stop Locations
- Efficiency Depends on Load Factors
  - Empty or Mostly Empty Buses Can Be As Resource Intensive As SOVs
  - Most Communities in the US Remain Reluctant to Reduce Parking
  - Complementary Paratransit Required by ADA
- Densification Takes Time
  - Auto Ownership Remains High Even in Many Transit Rich Areas
  - Complementary Investments May Get Stalled

When is microtransit the right fit for your community?

- Improve Upon Traditional Dial-a-Ride Demand Response
  - Attract New Riders
- Meet On Demand Customer Expectations
- Provide Service and Test the Market In Areas or At Times of Low Demand
  - Test Previously Unserved Market
  - Replace Underperforming Fixed Route
- Provide Equal Access Across a Service Area
- Provide Service In Areas With Inadequate Infrastructure for Fixed Routes (e.g. Sidewalks, Lighting)
- Get Started
  - Incremental, Customizable, Rapidly Deployed

“Set realistic goals. This is a low ridership service for low-density and low-demand areas or times.”
- TCRP Synthesis 141 (Volinski, 2019)
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OUTLINE

- The beginning: RPOs to RTPOs
- Roles and Responsibilities
- Organization and Funding
- Looking back: Benefits, challenges and keys to Ohio’s success
HISTORY OF REGIONAL PLANNING IN OHIO

2012 - Moving Ahead for Progress in the 21st Century (MAP-21) allowed states to formally designate Regional Transportation Planning Organizations (RTPOs)
Prior to July 2013, regional transportation planning was done by 17 Ohio MPOs (30 of 88 counties)
WHERE COULD ODOT TURN? OHIO’S EXISTING RPO’S

Ohio Regional Planning Organization Boundaries

Ohio RTPO Boundaries
HOW ARE RPOs SET UP?

- State requirements:
  - Regional Planning Commission - RPC (*ORC § 713.21 and 713.23*), or
  - Council of Governments - COG (*ORC § 167*)
  - Association of Counties - (*ORC § 307*)

- Federal requirements:
  - Have support from a public entity that serves as its financial agent (*23 USC 135(m) and 23 CFR 450.210(d)*)
HOW IT STARTED

- In 2013, ODOT issued a RFP for a pilot program
  - Offered planning funds to two (2) RPO’s
  - All five existing regional planning agencies applied
  - ODOT awarded planning grants to all five RPOs!

- Two-year pilot program initiated in July 2013
  - Covered an additional 34 counties
TWO YEAR PILOT PROGRAM

- Key components:
  - Provide interagency consultation and stakeholder outreach
  - Development of transportation planning expertise
  - Development of a multimodal long-range transportation plan
**RTPO Structure**

**RTPO Handling Agency**
The government entity that houses the professional RTPO staff and is the responsible contractual and fiscal agent.

**Technical Advisory Committee (TAC)**
Provide professional and technical advice to the RTPO Board or Policy Committee to inform transportation planning and project decisions.

**Policy Committee**
The entity formally designated as the RTPO and responsible for conducting the area’s transportation planning process.

**Other Committees**
Established as necessary to address transportation planning considerations and specific modes.
WHAT AUTHORITY DO RTPO HAVE?

- Based on their organization under Ohio law:
  - RPOs/RTPOs are voluntary organizations
  - They exist to serve their member agencies
  - There are no statues requiring specific products or functions
  - ODOT’s official partner in rural consultation
CURRENT RTPOS IN OHIO
CONTINUED RTPO DEVELOPMENT

- Three new RTPOs in development
- If successful, 82/88 Ohio counties would have regional transportation planning representation
HOW DOES AN RPO BECOME AN RTPO?

- Adopt RPO/RTPO Structure
- Successfully Complete LRTP
- Governor Designation
RESPONSIBILITIES AFTER BECOMING AN RTPO

Core Work Products

- Long-range Transportation Plan Update
- Regional Transportation Improvement Program (RTIP)
- Annual Work Program

Public & Stakeholder Engagement

- Statewide Planning Participation
- Technical Assistance - Locals & ODOT
- Special Studies / Projects

Ongoing
RTPO ROLES AND RESPONSIBILITIES

- Long-range planning - 20-year horizon, updated every five years
  - Regional Vision, Goals and Objectives
  - Public/ Stakeholder Engagement
  - Existing/ Future Conditions and Regional Trends
  - Recommended Strategies and Projects
  - Transportation Equity / Environmental Justice
  - Financial Plan
  - Systems Performance Report

23 U.S.C. 450 – Planning Factors

1. Support economic vitality
2. Increase the safety of the transportation system for motorized and non-motorized users;
3. Increase the security of the transportation system
4. Increase accessibility & mobility of people & freight;
5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
7. Promote efficient system management and operation;
8. Emphasize the preservation of the existing transportation system;
9. Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation; and
10. Enhance travel and tourism.
RTPO ROLES AND RESPONSIBILITIES

- **Additional planning (optional):**
  - Safety and/or corridor studies
  - Safe Routes to School Plans
  - Active Transportation Plans
  - Asset Management/Data Collection
  - Transit Planning
  - Coordinated Public Transit-Human Services Transportation Plans
  - Freight Planning
  - Grant writing/funding app assistance
ODOT ROLES AND RESPONSIBILITIES

○ Central Office
  ○ Planning Program Oversight
  ○ Fiscal Oversight
  ○ Technical Assistance
  ○ Liaison Designation

○ Districts
  ○ RTPO Policy Board Member
  ○ Planning Process Participation
  ○ District Capital Program Priorities
PLANNING PROGRAM FUNDING ALLOCATION

- Annual Planning Program Budget
  - SFY 2024 - $1,292,705
    - 80% Federal SPR - Part 1
    - 10% State
    - 10% Local Match (dues)

- Federal/State allocated based on:
  - $60,500 per RPO/RTPO
  - Balance distributed proportionally
    - 50% pop / 50% area

<table>
<thead>
<tr>
<th>RTPO</th>
<th>Total</th>
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<tbody>
<tr>
<td>BUCKEYE HILLS</td>
<td>$207,588</td>
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<td>CORPO</td>
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<td>MVPO</td>
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<td>OVRDC</td>
<td>$295,861</td>
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<tr>
<td>TOTAL</td>
<td>$1,292,705</td>
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Capital Program Funding

- State Budget Appropriations
- SFYs 2024-2025 - $10 million
  - SFY 2024 - $5 million
  - SFY 2025 - $5 million

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<thead>
<tr>
<th>RTPO</th>
<th>SFY 2024 ($)</th>
<th>SFY 2025 ($)</th>
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<tr>
<td>BUCKEYE HILLS</td>
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<td><strong>$5,000,000</strong></td>
<td><strong>$5,000,000</strong></td>
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BENEFITS

- Adopted comprehensive LRTP and RTIP
- Data systems
- Increased interregional coordination - RPO/MPO and RTPO responsibilities
- Engagement of local/appointed officials
- Recognized role in ODOT planning and project implementation
- Established priorities for greater success in securing resources
- Funding allocations
CHALLENGES

- Sustained interest/responsiveness
  - Local/regional leadership and elected officials
  - DOT leadership and districts
- Staff attraction and retention
- Federal/State compliance requirements
- State oversight and administration resources
- Insufficient resources
KEYS TO OHIO’S SUCCESS

- Existing RPO standing
- MPO / ODOT mentorship
- Central liaison and district structure
- RTPO Administrative Manual
  - Agreements, expectations, and procedures
- Recurring coordination
  - Ohio Association of Regional Councils (OARC)
- ODOT Planning Contracts
- Legislative support
QUESTIONS

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