Transit Basics and Trends

SMART Transportation
Overview

• What is Public Transportation
• Transit in Royal Oak
• Transit Basics
• Innovative Mobility options
What is public transportation?

• A publicly-funded service offering a range of transportation modes for general use

• Usually relies on a backbone of fixed bus routes operating on a posted schedule

• Lifeline for some, convenient or economical option for others
The current players

• **SMART**—Public transit authority providing service in Wayne, Oakland, Macomb Counties

• **City of Royal Oak**—Operates transportation service for senior/disabled residents

• **RTA**—Contracts with DDOT to operate Woodward Reflex (to be replaced with new SMART service)

• **OCPTA**—Oakland County Public Transportation Authority collects transit millage in Oakland County, funds SMART services

• **Others**—Ferndale Fab Cab, Troy Big Beaver Shuttle, new mobility services
SMART Services in Royal Oak

- Bus routes
- Connector
- ADA Paratransit
- Community Partnership Program
Coming Soon: New Service Overview

- Three **new, limited-stop** routes connecting Detroit and suburbs seven days each week
- Additional Northland Area trips for Route 851
- New service starts January 1, 2018
- Extensive public outreach
New Service Initiative

- Completed Millage promise of fixed-route fleet replacement
- New, high frequency, limited stop service to better access jobs, schools, airport, medical facilities, and entertainment
- Limited stops connects riders to over 92% of all SMART and DDOT routes
Coming Soon:
Woodward Limited-Stop Service

- New service connecting **Downtown** to **Pontiac/Troy**
- High frequency:
  - 15 minutes weekdays
  - 20 minutes Saturdays
  - 30 minutes Sundays
- Route splits at Birmingham
- Replaces Route 475 and south half of Route 465
- Local service remains
- Route 445 remains
Transit 101
Service design basics

- Modes
- Headway
- Coverage vs Frequency
- Span
- Speed
- Vehicle Type
- Alternative Service Designs
Fixed-route and other modes

• Fixed-route
  ▪ Major corridor vs. local coverage routes
  ▪ Limited-stop routes
  ▪ Peak-period commuter express routes

• Flexible and Demand-response
  ▪ Flex or zone routes, ADA paratransit, Dial-a-Ride, etc.
Headways (frequency)

• Wait time at stop
  ▪ Time between departure of first bus and arrival of next bus at a given stop
  ▪ Varies from route to route, and by time of day, day of week on each route.

• 10-15 minute headway is very frequent service (most convenient).

• 60 minute headway is generally the longest frequency used on a route
Coverage vs. Frequency

- **Better frequency** means more convenience, less planning around transit schedule
  - Also means buses concentrated on fewer routes to achieve higher frequency but less coverage

- **Better coverage** means more routes covering larger area, reaching more destinations
  - Also means less convenient frequencies because buses spread out across more routes
Service span

• Span is a transit service’s hours of operation
  ▪ Heavily-used routes typically have longer hours
  ▪ Service span typically reduced on Saturdays and Sundays (lower travel demand)
  ▪ Commuter routes operate during AM and PM peak periods, weekdays only
Speed

• Factors affecting travel speeds:
  ▪ **Stop spacing** – (1/8 vs 1/4 mile, 1 or 2+ mile)
  ▪ **Traffic congestion** – dedicated lanes? Signal priority?
  ▪ **Route design** – Straight, direct, following major roadways? Or curving, deviations, local streets?
  ▪ **Ridership and boarding** – Busy routes, slow fare payment mean more delay
Vehicles

- 30-40 foot buses
- Articulated buses
- Smaller buses, cutaway vehicles, vans
Not just buses

• Flexible transit
  ▪ Zone services: SMART Groesbeck Shuttle, Oakland and Somerset Mall Shuttles

• New mobility options
  ▪ Uber/Lyft, Chariot, Bridj, SPLT, Skoot, RideHop
SMART flex services

• Groesbeck Shuttle
  ▪ Zone-based demand-response service with three scheduled time points

• Oakland and Somerset Mall Shuttles
  ▪ Dedicated vehicles serve trips within zones around two malls (no time points)

• Farmington/Farmington Hills Dial-a-Ride
  ▪ Dedicated curb-to-curb zone service covering whole community
Community shuttles

• Troy Big Beaver Shuttle
  ▪ Two routes connect major destinations along Big Beaver corridor

• Grosse Pointe “K Line”
  ▪ Seasonal leisure/shopping shuttle on Kercheval Avenue

• Ferndale “Fab Cab”
  ▪ Emerging concept for shuttle linking Ferndale to Royal Oak, Livernois/7 Mile district in Detroit
Uber and Lyft

- Private TNCs (Transportation Network Companies)
- Mobile phone app, reserve and ride in minutes, pay through app
- Fares vary by mileage and time of day
- Individual rides, carpool option (Uber)
- Both active in Metro Detroit
SPLT and Lyft partnership

- SPLT is a carpooling app developed by a Detroit-based startup
- Partners with Beaumont Health and Lyft to provide patient transportation for appointments
  - Not just app-based, supports phone/text/online requests as well
- Requires only a few hours’ advanced notice and improves wait time for return trips
RITMO (University of Michigan)

- On-demand, app-based shuttle on UM North Campus (pilot project)
- “Hub and spoke” model
  - Serves remote areas of campus on request only
  - Drops off rider at high-frequency bus stop for rest of trip
  - Dynamic algorithm allocates shuttles to meet real-time demand
- Large buses pulled away from remote areas to serve highest-demand areas
Other actors

• **RideHop app** – local start-up, Quicken downtown shuttles, UM-Detroit Connector, K Line

• **Bridj** – 6-month paratransit pilot program with Kansas City Metro Transit

• **Skoot** – App-based airport shuttle service

• **Chariot** – Microtransit provider owned by Ford Smart Mobility, n/a in Metro Detroit
Thank You!