SacRT Forward
New Bus Network
Implementation and Results

SACOG Transit Coordinating Committee
October 2020
Background

- 20 million boardings (pre-COVID)
- 1.1 million person service area
- Bus, light rail, paratransit, microtransit
- Cost-neutral bus network restructuring
- Took effect 9/8/19
Boardings Per Revenue Hour
Before SacRT Forward

Weekday
(40 Routes)

Saturday
(27 Routes)

Sunday/Holiday
(22 Routes)

Headways
- 15 minutes
- 30 minutes
- 60 minutes

2 routes w/ 30m headways
Key Strategies
Fewer Routes, Better Headways, Simpler Network

• Consolidate and simplify
• Eliminate redundancy
• Eliminate routes with narrow purpose
• Focus on major corridors
Key Outcomes
Fewer Routes, Better Headways, Simpler Network

- Reduced from 40 to 27 regular routes
- Seven days of service (on all 27 regular routes)
- Improved weekend headways (mostly from 60 minutes)
- Added weekend service to many routes
- Some route eliminations, realignments, span changes
- 3.8% increase in service (annualized)
Ridership Forecasts

- 30% return on investment
- Service levels increase (+3.8%)
- Ridership increases (+1.2%)
- Productivity decreases

Histogram of Headway Elasticities
Bimodal Distribution (Average = 0.3)
Results
Ridership Methodology

- February 2020 vs 2019 (six month ramp-up)
- 19.5% raw ridership gain (annualized basis)
- Deducted 12.5% for student free ride program
- Deducted 3.2% for expected no-change growth
  - Based on 15 comparable agencies (without changes)
  - Accounted for weather (more favorable in 2020)
- Yields 3.8% ridership gain from project
- Passenger mile trends matched boardings
## Bus Ridership | Six Months
### February 2020 vs 2019

<table>
<thead>
<tr>
<th></th>
<th>Ridership</th>
<th>Revenue Hours</th>
<th>Return on Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mon-Fri</td>
<td>+0.3%</td>
<td>-3.7%</td>
<td>n/a</td>
</tr>
<tr>
<td>Saturdays</td>
<td>+28%</td>
<td>+41%</td>
<td>70%</td>
</tr>
<tr>
<td>Sun/Hol</td>
<td>+37%</td>
<td>+75%</td>
<td>50%</td>
</tr>
<tr>
<td>Annualized</td>
<td><strong>+3.8%</strong></td>
<td><strong>+3.8%</strong></td>
<td>101%</td>
</tr>
</tbody>
</table>

Ridership adjusted down 15.7% annualized to account for student free ride program (+12.5%) and expected growth (+3.2%).

**Ridership Forecast = +1.2%**

Based on TCRP Report 95 standard 30% elasticity
Lessons Learned
Lesson #1: Prepare a Ridership Forecast

- Needed for budget
- Needed for board report
- All major publicly traded firms make sales forecasts
- It will improve your plan
- Our ridership forecast led to macro-level changes to our initial draft plan
1. Always prepare a ridership forecast
Lesson #2:
Focus on Cost, Not Demand Estimation

<table>
<thead>
<tr>
<th>Maximizing Ridership</th>
<th>Minimizing Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Speculative</td>
<td>• Knowable and controllable</td>
</tr>
<tr>
<td>• Laborious analysis</td>
<td>• Simple math</td>
</tr>
<tr>
<td>• Minimal, delayed fiscal impact</td>
<td>• Direct fiscal impact</td>
</tr>
</tbody>
</table>

Farebox Recovery = 20%
Lessons Learned

1. Always prepare a ridership forecast
2. Focus on cost (design), not demand estimation (research)
Lesson #3: Don’t Front-Load Your Scope

What Are You Proposing?
Lessons Learned

1. Always prepare a ridership forecast
2. Focus on cost (design), not ridership estimation (research)
3. Don’t front-load your scope
# Lesson #4: If It Ain’t Broke, Don’t Fix It

## Reallocation vs. Restructuring

<table>
<thead>
<tr>
<th>What it is</th>
<th>Reallocation</th>
<th>Restructuring</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No change to map</td>
<td>Design changes</td>
</tr>
<tr>
<td></td>
<td>Cut bad routes, improve good ones</td>
<td>New route maps</td>
</tr>
<tr>
<td></td>
<td>Headways or span changes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Add service days</td>
<td></td>
</tr>
<tr>
<td>Pros/Cons</td>
<td>Easy to plan and evaluate</td>
<td>Complicated</td>
</tr>
<tr>
<td></td>
<td>Predictable benefits</td>
<td>Speculative benefits</td>
</tr>
<tr>
<td></td>
<td></td>
<td>forfeits more existing riders</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Results may be counterproductive</td>
</tr>
</tbody>
</table>
Lessons Learned

1. Always prepare a ridership forecast
2. Focus on cost (design), not ridership estimation (research)
3. Don’t front-load your scope
4. If it ain’t broke, don’t fix it
Lesson #5: Reimagining Has Its Limits

<table>
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<tr>
<th>Route Reimagining</th>
<th>Fare Reductions</th>
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<tr>
<td>(Ex: SacRT Forward)</td>
<td>(Ex: Student Free Rides)</td>
</tr>
</tbody>
</table>

- **Route Reimagining**
  - 1-2 years, $400-500k project
  - $4.38 per new rider
  - 350k new riders
  - Speculative benefits
  - Popular with non-riders (e.g., voters)
  - Complaints from existing riders
  - Good for a system that recently expanded rapidly

- **Fare Reductions**
  - Six months, existing staff time
  - Under $1.00 per passenger
  - 1 million new riders
  - Concrete benefits
  - Universally popular
  - Good for a system with excessive fares
Lessons Learned

1. Always prepare a ridership forecast
2. Focus on cost (design), not ridership estimation (research)
3. Don’t front-load your scope
4. Reallocation (simple) is better than restructuring (high-risk)
5. Not every system is ripe for reimagining
Lesson #6: Free Rides on Launch Day

- One less thing for riders to worry about
- One less thing for drivers to worry about
- Faster boardings, to offset delay from customers who will be asking lots of questions
- Defuses tensions when things go wrong
- Helps ridership
Lessons Learned

1. Always prepare a ridership forecast
2. Focus on cost (design), not ridership estimation (research)
3. Don’t front-load your scope
4. Reallocation (simple) is better than restructuring (high-risk)
5. Not every system is ripe for reimagining
6. Free rides on launch day
Questions? Comments?

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