Transforming The CTA

President Ron Huberman  Chicago Transit Authority
THE MONEY

- Operating
- Pension
- Retiree Health Care
- Capital
FINANCIAL REFORM

- 5 year agreement with 21 unions to stabilize pension, retiree health care and costs
  - Pension reform – benefits adjustment
  - Retiree Healthcare Trust
THE MONEY

1. Operating
2. Pension
3. Retiree Health Care
4. Capital

- Obtain state of good repair
  - $6.8 Billion
- Maintain state of good repair
- Expand
TRUE COST OF OPERATING CTA

- Capital Depreciation
- Operating Cost

Example

Daily Bus Miles = 250,000
Managing Capital Today

- Bonding
- No fixed capital stream
CAPITAL DEPRECIATION STRATEGY

• Find ways to begin building in capital maintenance
  • Legislative strategy
  • Additional savings
  • Non-fare box revenue
    • Concessions
    • Transit-Oriented Development
    • Advertising

CUBS Night
Tuesday April 20th
THE CUSTOMER

- Bus Bunching
- Slow Zones
- Cleanliness
- Communications

Speed 65 MPH
ADDRESSING
BUS BUNCHING
**INTERVAL MANAGEMENT**

- **Ideal:** Buses leave garage spaced in even intervals

- **Bunching Scenario**

  ![Diagram of bus bunching scenario with time intervals: 20 mins., 5 mins., 1 min.](image)
CUSTOMIZED STRATEGIES!

- Bus Operator Behavior
- Street Conditions
- Schedules
- Supervision

The trick is to be flexible!
No “one size fits all.”
ANALYZING ROUTE BUNCHING

...Eastbound...

The next route begins with bunches

Route ends with bunches and gaps

30 min. gap

20 min. gap
% BUNCHED: 15-MONTH TREND

System Wide % Bunched By Month

Aug: 4.3 2006, 4.1 2007, 4.3 2008
Sep: 5.6 2006, 5.1 2007, 5.1 2008
Oct: 5.1 2006, 4.4 2007, 4.4 2008
Nov: 4.5 2006, 4.0 2007, 4.0 2008
Dec: 4.4 2006, 4.3 2007, 4.3 2008
Jan: 3.5 2006, 3.4 2007, 3.4 2008

More Snow Than Normal
12.7”
3.5”

2006 2007 2008
ELIMINATING SLOW ZONES PLUS
ELIMINATING SLOW ZONES PLUS

- Modernizing track standards -- increasing speed to 70 MPH
- New track technology
- Recycled plastic ties
WORKING FOR A FASTER RIDE

System slow zone feet eliminated

<table>
<thead>
<tr>
<th>Month</th>
<th>Slow Zone Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jun.</td>
<td>250,057</td>
</tr>
<tr>
<td>Jul.</td>
<td>242,575</td>
</tr>
<tr>
<td>Aug.</td>
<td>238,827</td>
</tr>
<tr>
<td>Sep.</td>
<td>261,728</td>
</tr>
<tr>
<td>Oct.</td>
<td>263,526</td>
</tr>
<tr>
<td>Nov.</td>
<td>227,790</td>
</tr>
<tr>
<td>Dec.</td>
<td>200,250</td>
</tr>
<tr>
<td>Jan.</td>
<td>195,042</td>
</tr>
<tr>
<td>Dec. 2008</td>
<td>81,087</td>
</tr>
</tbody>
</table>

- 21.2%  
- 20.5%  
- 20.2%  
- 22.2%  
- 22.3%  
- 19.3%  
- 17.0%  
- 16.9%  
- 6.9%
BUS/RAIL CLEAN
BUS CLEAN CHALLENGES

• Increase bus cleanliness with new staffing model, processes, and tools.
RAIL “DEEP CLEANS”

- Goal is 21 days between deep cleans

Days Between Deep Cleans

<table>
<thead>
<tr>
<th>Month</th>
<th>Days Between Deep Cleans</th>
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<tbody>
<tr>
<td>Jan-07</td>
<td>130</td>
</tr>
<tr>
<td>Feb-07</td>
<td>155</td>
</tr>
<tr>
<td>Mar-07</td>
<td>78</td>
</tr>
<tr>
<td>Apr-07</td>
<td>70</td>
</tr>
<tr>
<td>May-07</td>
<td>85</td>
</tr>
<tr>
<td>Jun-07</td>
<td>86</td>
</tr>
<tr>
<td>Jul-07</td>
<td>42</td>
</tr>
<tr>
<td>Aug-07</td>
<td>29</td>
</tr>
<tr>
<td>Sep-07</td>
<td>33</td>
</tr>
<tr>
<td>Oct-07</td>
<td>30</td>
</tr>
<tr>
<td>Nov-07</td>
<td>50</td>
</tr>
<tr>
<td>Dec-07</td>
<td>28</td>
</tr>
<tr>
<td>Jan-08</td>
<td>35</td>
</tr>
</tbody>
</table>
COMMUNICATION
IMPROVEMENT
STRATEGIES
NEW COMMUNICATIONS FOCUS

**GOAL**: Supply clear, straightforward information to customers

- At home/work
- Before entering pay area
- On Platform/At bus stop
- During the ride
- In an emergency
TRAIN, BUS AND STATION SIGNAGE

- **Redefine current signage**
  - Previously heavily text-based
  - Going to color-coded, simpler
  - Focus on clear information on:
    - Exactly what is happening,
    - How customers’ travel is affected
    - Why changes are occurring

- **Mobile signage**
  - Clear information for customers before they enter our stations
FOCUS ON PERMANENT SIGNAGE

- Generations of signs with different designs
- 40% of stations have outdated signage
- Finalizing Design Standard Manual to create consistent design for all signage
FOCUS ON PERMANENT SIGNAGE

Old Fullerton 2400N 1000W

New Fullerton 2400N 1000W

Old Wellington Northbound to Kimball Connects at Belmont for Howard, Evanston, Skokie
A Station

New Wellington to Kimball to Linden

New Circle Ave.
CTA DIGITAL URBAN PANEL DISPLAY
CTA DIGITAL KING SIZE BUS DISPLAY
CIVIC CONSULTING ALLIANCE

Working with world/class partners

BOOZ ALLEN: Performance Management Launch

IDEO: Customer Communication

DELOITTE: Rail of the Future & Construction Management

KATZENBACH: Bus Cleanliness

HURON: Control Center

MCKINSEY: Turnaround Plan & Bus Maintenance
TRANSFORMATION GOALS

1. Increase Ridership

2. Increase Revenue per service mile

3. Reduce Cost per Average Service Mile

4. Increase Non Fare Box Revenue

5. Increase Customer Satisfaction Through Improved Reliability, Courtesy and Cleanliness

6. Operate the Safest Metropolitan Transit System

7. Maximize the value of Capital dollars

8. Secure $6.8 B. State and Federal Capital

9. Design and finance World-Class CTA
Increasing Ridership
CHICAGO’S RIDERSHIP POTENTIAL

- Chicagoans respond to level/quality of service but we still haven’t caught up to our potential

Source: CNT Sustainable Communities Attainable results
ENABLING INITIATIVES

1. Conduct detailed demand study
   - Current customers
   - Possible new customers
2. Increase Bus/train capacity
3. Bus Rapid Transit Strategy
4. Creative Marketing Strategies
Increase Revenue Per Service Mile

Decrease Cost Per Service Mile
WHY REVENUE/COST FOCUS?

- A standard measure enables better decision making across routes

Question: Where should we put our buses and trains?

TOTAL Passenger Revenue + TOTAL Vehicle Miles = RASM

TOTAL Passenger Revenue + TOTAL Vehicle Miles = CASM
Average Miles Per Gallon

May-07  Jun-07  Jul-07  Aug-07  Sep-07  Oct-07  Nov-07  Dec-07  Jan-08

2.8  2.9  2.8  2.8  2.8  3.0  3.2  3.2  3.2
FOCUS ON EFFICIENCY

- Top 5 tasks account for 63% of maintenance hrs.

Preventive Maintenance Hours

<table>
<thead>
<tr>
<th>Description</th>
<th>Hours</th>
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<tbody>
<tr>
<td>4,000 Mile Inspection</td>
<td>1,394</td>
</tr>
<tr>
<td>AC Inspection</td>
<td>1,373</td>
</tr>
<tr>
<td>Lift Inspection, Minor</td>
<td>1,204</td>
</tr>
<tr>
<td>Engine Oil Change</td>
<td>900</td>
</tr>
<tr>
<td>Radio System Check</td>
<td>796</td>
</tr>
<tr>
<td>Air Dry Cartridge</td>
<td>762</td>
</tr>
<tr>
<td>Radius Rods Rear</td>
<td>508</td>
</tr>
<tr>
<td>Radius Rods Front</td>
<td>403</td>
</tr>
<tr>
<td>Air Cleaner Element</td>
<td>304</td>
</tr>
<tr>
<td>Trunion Bushings</td>
<td></td>
</tr>
<tr>
<td>Engine Alternator</td>
<td></td>
</tr>
<tr>
<td>Rear End Glide</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

A similar approach for all of top 5 tasks can be used to save 25% of time.
RECONFIGURE WORKFLOW

CURRENT

FUTURE

Steps Eliminated: 4 Trips
Time Saved: 200 Minutes

-75% → 1 Trip
-75% → 50 Minutes

Radio check (outside)
Radio check (outside)
Radio check (outside)

Stock Room Locke

Bypass

Staging Area

General Cleaning

Office

Stock Lockers

External Parts Storage

Towing Chassis Storage

Maintenance

Washing
4,000 MILE INSPECTION

CURRENT

3,280 Ft. and 45 Minutes

FUTURE

1,500 Ft. and 25 Minutes
Could involve multiple trips to the window

Task given
- Look up part 1
- Look up parts 2, 3
- Look up part 4
- Move to another task until part 4 is available
- Task complete (some parts changed)

Process involves 1 trip for each task

Task given
- Look up kit A includes parts
- Task Complete (all parts changed)

Kit example:
OTHER SAVINGS/IMPROVEMENTS

- Examples
  - Eliminated 147 administrative positions
  - Eliminated legacy IT systems = $2.4 million savings annually
  - Adjusted payroll cycles of union and non-union employees, etc.

Source: MMIS
Increase Non-Fare Box Revenue
ENABLING INITIATIVES

- Concessions
- Transit Oriented Development
- Advertising
Increase Customer Satisfaction
ENABLING INITIATIVES

• Bus Bunching
• Slow Zones
• Increased on-time percentage
• Etc.
Operate the Safest Metropolitan Transit System
ENABLING INITIATIVES

- DriveCam Pilot
- Creation of Risk Management Team
SIGNAL SYSTEM UPGRADES

- Upgrade computer systems
  - Reduce delays due to signal malfunctions
  - Better diagnostic tools to prevent problems
  - Real-time monitoring of system status
  - Capacity to remotely trouble shoot
MAINTENANCE MNGT. INFO. SYSTEM

- Database to track real time status
  - Preventative maintenance plan
  - Real time slow zone data
  - Workforce controls
  - Work prioritization
  - Data for future planning
  - GPS tracking of employees
Maximize Value of Capital Dollars

Secure $6.8 Billion State and Federal Capital
Design and Finance a World Class CTA
THE FUTURE
CUSTOMER CONVENIENCE
Bus Rapid Transit
BUS RAPID TRANSIT

- 90’articulated buses run at street-level in designated lanes
- Provides faster travel time on existing streets
- Distinctive shelters, pre-paid boarding and real-time travel information

Artists Sketch of Chicago Transportation Hub

Built from 100% recyclable materials
150 New Hybrid Articulated Buses
### 150 HYBRID ARTICULATED BUSES

<table>
<thead>
<tr>
<th></th>
<th>Annual Bus Total</th>
<th>Annual Per Bus Cost</th>
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<tbody>
<tr>
<td>Cost to Lease</td>
<td>$13,200,000</td>
<td>$ 88,000</td>
</tr>
<tr>
<td>Fuel Savings</td>
<td>- $ 913,000</td>
<td>- $ 6,100</td>
</tr>
<tr>
<td>Labor Savings</td>
<td>- $ 2,100,000</td>
<td>- $ 14,000</td>
</tr>
<tr>
<td>Maintenance Savings</td>
<td>- $ 3,900,000</td>
<td>- $ 26,000</td>
</tr>
<tr>
<td>Total Savings</td>
<td>- $ 6,900,000</td>
<td>- $ 46,100</td>
</tr>
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</table>

**Savings Off-Set**

- **52.3%**

- 150 will replace 200 oldest buses (-2.3% decrease in fleet with same revenue)
- Better customer experience
NEW CTA TRAINS
NEW TRAIN FEATURES

- 406 Rail Cars at $1.4 Million per car
- Total = $577 Million
- Test car delivery – Beginning of 2009
- Features of new car
  - Smoother, quieter ride
  - Fully computerized internet-based controls
  - Reduced Maintenance costs
  - Additional Safety Features
NEW INTERIOR DESIGN: SCHEME 1
DELOITTE STUDY

- Goal: Set a vision for the “ideal” rail of the future
  - What are the available, existing technologies?
  - What are their capacities?
  - What are the construction costs of these technologies?
OPTION: HEAVY RAIL

- High capacity, high speed urban transit solution
- Requires exclusive right-of-way
- Can be elevated, at-grade, or subway
- Most durable and longest life expectancy

Realistic, appropriate solution.
Replacing existing system with other option could cost as much $30 billion.
Improving some core features can have a substantial impact on the quality of service.

Example Cities:
- Paris
- Hong Kong
- Madrid
- NYC
- London
- Vancouver
**RAIL OPTION: LIGHT RAIL**

- Lower construction costs than heavy rail
- Mid-range capacity and durability
- Runs in shared right-of-way, incl. street level
- Often selected for city-friendly attributes, such as easy boarding from street level

**Example Cities:**
- Portland
- Denver
- Los Angeles
OPTION: MONORAIL

- Comparable capacity to light rail
- System components may be more costly
- Track/platform costs are reduced due to smaller beam profile
- All systems have Automatic Train Operation (ATO) capability

To handle the CTA daily ridership, twice as many lines would need to be implemented

Cost estimates to implement a city-wide monorail could be as much as $30 billion

Example Cities:
- Las Vegas
- Tama, Japan
- Osaka, Japan
- Newark AirTrain
OPTION: “URBAN MAGLEV”

- Runs at 100 m.p.h.
- Designed for shorter station spacing
- Still experimental and relatively untested
- Costs are very difficult to estimate

Example Cities:
- Nagoya Japan
- Shanghai, China
- Berlin, Germany

MagLev averages 150+ MPH. Typically stations must be more than 10 miles apart due to acceleration/deceleration needs.
MORE TO COME......
Transforming The CTA

President Ron Huberman  Chicago Transit Authority