

2013



**Participant Workbook:
Managing Operating Costs for Rural
and Small Urban Public Transit
Workshop**

**TEXAS A&M TRANSPORTATION INSTITUTE
&
TEXAS DEPARTMENT OF TRANSPORTATION**



Let Us Introduce Ourselves

- Suzie Edrington
- Jonathan Brooks
- Linda Cherrington
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Who Are You?

- Name
- Agency
- Tell Us About Your Transit Service
- What interested you about this workshop?

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Why This Workshop Now?

- Increasing demand for transit
- Balance demand with finite resources
- Rising gap between operating cost and funding
- Necessary to understand and manage cost drivers



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Workshop Purpose

- To provide a toolkit for rural and small urban transit agency managers and staff to better analyze, track, predict and manage operating costs.



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Workshop Topics

- Vehicle replacement plans and state of good repair
- Minimizing no-shows and late cancellations
- Contracting for transit service
- Future trends and forward thinking approaches
- Buying fuel, managing consumption
- Managing staff shifts

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Agenda

Time	Description
9:00 - 9:45	Opening General Session
9:45 - 10:00	Break – Choose Session Topic
10:00 – 10:50	Maintenance: Vehicle Replacement Plan, State of Good Repair Minimizing No-Shows and Late Cancellations
10:50 – 11:00	Break – Choose Session Topic
11:00 – 12:00	Contracting for Transit Services Future Trends and Forward Thinking Approaches
12:00 - 1:30	Lunch – Choose Session Topic
1:30 – 2:20	Buying Fuel and Managing Consumption Staff: Managing Shifts, Managing Costs
2:20 - 2:30	Break
2:30 - 3:00	Closing General Session

Materials and References

- Participant Workbook
 - Agenda
 - Presentations
 - Evaluation Forms
- Guidebook



Choose A Breakout Session

- Maintenance: Vehicle Replacement Plan, State of Good Repair
- Minimizing No-Shows and Late Cancellations



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Maintenance: Vehicles and State of Good Repair



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Learning Objectives

At the end of this lesson you will be able to...

- Implement proper vehicle database practices
- Identify minimum service-life standards and vehicle retirement points
- Understand the importance of healthy spare-ratios
- Rationalize extending life of vehicles due to budget constraints

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Reference Materials

- Participant workbook including Power Point
- Handout of example service fleet
- Guidebook: Managing Operating Costs for Rural and Small Urban Public Transit Systems

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Maintenance: Vehicles and State of Good Repair

WHY BE CONCERNED ABOUT MAINTENANCE COSTS WHEN THEY ARE UNAVOIDABLE?

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Vehicle Maintenance Is Unavoidable

■ Texas Transit Maintenance Stats (2011)

- Rural agencies spent 6 percent on maintenance (\$0.21 per revenue mile, \$3.82 per revenue hour)
- State-funded urban agencies spent 18 percent on maintenance (\$0.73 per revenue mile, \$10.59 per revenue hour)

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Factors Affecting Maintenance

- Internal
 - Fleet condition
 - Fleet age
 - Level of transit service provided
 - Preventative maintenance practices
 - Contracts for maintenance
- External
 - Inclement or extreme weather
 - Vehicular accidents
 - Roadway conditions

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Why Be Concerned About Maintenance Costs?

Table 4-1. Texas Transit District Operating Expenses by Function
(Fiscal Years 2009 to 2011).

Function	FY 2009	FY 2010	FY 2011
Operating	\$97,598,443	\$106,497,995	\$115,276,755
Maintenance	\$20,990,585	\$23,040,572	\$22,945,568
Administrative	\$18,473,477	\$20,361,563	\$21,094,627
Planning	\$2,177,011	\$2,727,457	\$2,476,197
Purchased Transportation	\$18,744,364	\$19,575,641	\$25,081,941
Transit Districts TOTAL	\$157,983,880	\$172,203,228	\$186,875,088

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Activity: Identify Current Maintenance Cost-Related Practices

MAINTENANCE CHECKLIST

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Maintenance Practices

- Do you benchmark maintenance performance against other peer operators?
- Do you track the number of road calls made for your vehicles by vehicle and type of issue?
- Do you periodically adjust your maintenance program due to performance or other issues?
- Do you have an annual vehicle replacement plan?
- Do you have a spare vehicles ratio of at least 10%?
- Do you maintain vehicle equipment according to recommended preventive maintenance schedules?
- Do you maintain a clear record (e.g., spreadsheet) of all vehicle-related data and maintenance activity?
- Do you routinely conduct spot inspections of vehicle cleanliness and operation?
- Do you monitor the performance of systems (e.g., exhaust system) for compliance with noise specifications?
- If contracted, is your maintenance provider contractually bound to adhere to preventive maintenance standards?

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Maintenance: Vehicles and State of Good Repair

GATHER AND USE INFORMATION TO MANAGE MAINTENANCE COSTS

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Gather and Use Information to Manage Maintenance Costs

- Can be done either through paper records, spreadsheet files, or more advanced tracking software
- Determine your fleet condition by keeping an asset inventory with all notable data
- Both revenue and non-revenue vehicles should be included

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Capturing Data

- *Vehicle Unit Number*: Makes the vehicle easily identifiable without having to use the VIN
- *Year Model*: Allows you to keep track of the vehicle's age
- *Vehicle Make/Model*: Helps in quickly identifying vehicles
- *License Plate*: Another quick identifier
- *VIN*: Stays with the vehicle throughout its life
- *Number of Seats*: Assess fleet mix and capacity

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Capturing Data

- *Vehicle Length*: Useful in assessing fleet mix
- *Vehicle In-Service Date*: Helps determine when the vehicle's useful life will end
- *Vehicle Condition*: Based on criteria defined by your agency
- *Revenue/Non-Revenue*: Separate support vehicles from service vehicles
- *In-Service/Out-of-Service*: Helps you judge your existing fleet

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Why Networking Databases Is a Good Idea

Table 4-3. Excerpt from Public Transit Services Asset Inventory Database.

Unit	Year	Vehicle	# Seats	Length	Mileage	Vehicle Condition	Status
H25	2010	Ford Senator Bus	10	21'	13,540	Excellent	In-Service
H22	2011	Ford Type III	14	22'4"	4,325	Excellent	In-Service
H23-New	2011	Ford Type III	14	22'4"	6,222	Excellent	In-Service
H24	2011	Ford Type III	14	22'4"	2,639	Excellent	In-Service
H25	2011	Ford Type III	14	22'4"	3,124	Excellent	In-Service
H26	2011	Ford Type III	14	22'4"	7,826	Excellent	In-Service
H27	2011	Ford Type III	14	22'4"	5,452	Excellent	In-Service
B17	2008	Chevy Uplander	3	121"	92,124	Fair	In-Service
B19	2008	Chevy Uplander	3	121"	92,001	Fair	In-Service
B18	2008	Chevy Uplander	3	121"	90,790	Fair	In-Service
B20	2008	Chevy Uplander	3	121"	72,447	Fair	In-Service
B21	2007	GMC Savana	14	21'	127,414	Poor	To be sold
A60	1999	Ford Van	12	17'	127,020	Poor	Sold

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Vehicle Inspection Practices and Data

- Vehicles should be inspected before and after each trip
- Should a problem become apparent, operators or maintenance managers must make them known
- Vehicle condition can also be recorded in the asset-inventory database or one of its own
- Mileage-based inspections are also critical

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Tracking Road Calls & Vehicle Failures

- Road calls can also indicate declining vehicle performance
- Monitor numbers over specified mile intervals
- Major mechanical failures vs. other mechanical failures
- Calculating the number of miles between vehicle failures can indicate larger problems

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Maintenance Efficiency Performance Measure(s)

- Maintenance cost per revenue mile or hour
- Benefits of the PTN 128 System
 - Can you give example?
- Disadvantages of relying on cost per mile
 - Can you give example?
- Using performance measures for maintenance
- Repairs by cost type

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Maintenance: Vehicles and State of Good Repair

POLICIES, PROCEDURES, AND STRATEGIES TO MANAGE MAINTENANCE COSTS

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FTA Standards for Managing Vehicles

Table 4-4. Transit Vehicle Minimum Service-Life.

Category	Typical Characteristics			Minimum Life		
	Length	Approx. GVW	Seats	Average Cost	(Whichever comes first)	
					Years	Miles
Heavy-Duty Large Bus	35 to 48ft and 60ft artic.	33,000 to 40,000	27 to 40	\$325,000 to over \$600,000	12	500,000
Heavy-Duty Small Bus	30ft	26,000 to 33,000	26 to 35	\$75,000 to \$175,000	7	200,000
Medium-Duty and Purpose-Built Bus	30ft	16,000 to 26,000	22 to 30	\$75,000 to \$175,000	7	200,000
Light-Duty Mid-Sized Bus	25 to 30ft	10,000 to 16,000	16 to 25	\$50,000 to \$65,000	5	150,000
Light-Duty Small Bus, Cutaways, and Modified Van	16 to 28ft	6,000 to 14,000	10 to 22	\$30,000 to \$40,000	4	100,000

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Retirement Compared to FTA Standards

Table 4-5. Actual Average Vehicle Retirement.

Vehicle Category/ Minimum Retirement Age	Average Retirement Age (Years)	Share of Active Vehicles That Are:	
		One or more years past the retirement minimum	Three or more years past the retirement minimum
12 - Year Bus	15.1	19%	9%
10 - Year Bus	8.4*	7%	4%
7 - Year Bus	8.2	12%	3%
5 - Year Bus / Van	5.9*	23%	5%
4 - Year Van	5.6	29%	10%

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Why Do I Need a Vehicle Replacement Plan?

- Shows accountability
- Project replacement in a given year
- Keeping vehicles useful
- Preparing for capital expenses

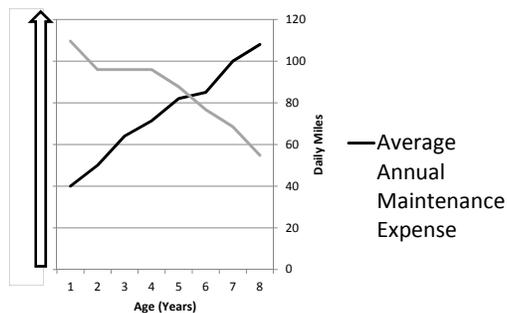


Figure 4-1. Maintenance Expense and Vehicle Usage by Age.

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Activity: Replacing your fleet

FLEET DATA

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Maximizing Vehicle Effectiveness

VIN	Year	Vehicle	Service Start	Service Months	Actual Mileage	Mileage Per Month	Maintenance per Mile	FTA Retirement	Retirement
1	2005	Aerotech	Oct-04	99	225,619	2,279	\$ 0.15	2013	2013
2	2009	Goshen	Nov-08	51	163,412	3,204	\$ 0.14	2013	2013
3	2009	Goshen	Nov-08	51	174,882	3,429	\$ 0.13	2013	2013
4	2009	El Dorado	Jul-09	42	115,314	2,746	\$ 0.17	2014	2014
5	2009	El Dorado	Jul-09	42	100,512	2,393	\$ 0.27	2014	2015
6	2009	El Dorado	Jul-09	42	131,247	3,125	\$ 0.15	2013	2014
7	2010	Senator	Oct-09	39	130,225	3,339	\$ 0.15	2013	2014
8	2010	Senator	Oct-09	39	95,456	2,448	\$ 0.25	2015	2015
9	2010	Candidate	Jun-10	31	82,486	2,661	\$ 0.20	2015	2016
10	2011	Candidate	Aug-10	29	80,643	2,781	\$ 0.14	2015	2016
11	2011	Candidate	Sep-10	28	87,147	3,112	\$ 0.14	2015	2016
12	2011	Ford	Sep-10	28	72,156	2,577	\$ 0.28	2015	2015

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Preventative Maintenance Practices

- Establish all service intervals as multiples of a common denominator
- Consider seasonal & environmental conditions that can impact maintenance
- Include a regular schedule for washing and cleaning vehicles

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Policies, Procedures, and Strategies to Manage Maintenance Costs

- Maintenance contractor oversight
 - Ensure contractor has the most up-to-date vehicle information
 - Store work orders with invoices for comparison to each other
 - Ensure maintenance supervisor has enough time to oversee operations

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Policies, Procedures, and Strategies to Manage Maintenance Costs

■ Fleet spare vehicle ratio

$$\text{Spares Ratio} = \frac{\text{Total Active Fleet} - \text{Peak Vehicle Requirement}}{\text{Peak Vehicle Requirement}}$$

- Should be between 10 to 20 percent
- Varies depending on specific agency needs

- Operating environment
- Annual bus mileage
- Bus operating speeds
- Ridership fluctuations
- Planned service/route adjustments
- Age of fleet
- Peak-to-base ratio
- Fleet mix of bus makes and models
- Road calls
- Vehicles per mechanic
- Alternative-fuel buses
- Management and finance
- Bus purchase/retirement schedule
- Inventory management
- Maintenance training

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Review

- Why is maintaining a vehicle database important?
- Why is networking a database useful?
- What are some good maintenance practices?
- How does maintenance factor in to replacement?
- Give examples of when vehicle life should be extended.

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***Remember, fill out the session review form.
We need to know how we can improve too!***

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QUESTIONS? COMMENTS?

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Minimizing No-Shows and Late Cancels



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Learning Objectives

At the end of this lesson you will be able to...

- Identify factors leading to no-shows/ late cancellations
- Explain how this impacts a transit agency cost
- Identify policies and procedures for managing
- Calculate potential productivity increases or cost saving

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Activity: Determine Factors Influenced by the Transit Agency or Patron

DRIVING FACTORS

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No-Shows & Late Cancellations

- Why do they occur?
- What are the driving factors?
- What impacts do no-shows have on service?
- How can you prevent no-shows?
- Why does it matter?

- Please list!

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Examples of Driving Factors

Transit Agency Influenced	Patron Influenced	
	Preventable	Unpreventable
Late pullout	Decided not to go	Ill or Emergency
Late time	Not ready	Attendant did not show
Late lost	Patron gave incorrect trip information	Mobility aide failure
Dispatcher did not record cancellation or remaining trips	Subscription trip not canceled on holiday	Transportation connection was late
Dispatcher transmitted incorrect information		
Reservation recorded incorrect information		
Dispatch/ driver mistakenly canceled wrong trip		
Patron could not get through telephone line		

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WHY MANAGING NO-SHOWS AND LATE CANCELLATIONS MATTER

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Impact on Productivity and Cost

1. Dispatcher and driver spend time trying to find the patron, causing the driver to run late and decreasing the number of passengers the vehicle carries in the day
2. Scheduling of another pick up to transport the patron who initially no-showed

Results in: Decrease in passengers carried per hour of service, decline in on-time performance, impact to other patrons and increase in the cost per passenger

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Agencies that implemented and enforced written no-show and late-cancellation policies decreased rates (as a percentage of total trips) between 1 percent and 10 percent annually, significantly improving productivity and service quality.

TCRP Report 124

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NO-SHOW AND LATE CANCELLATION POLICIES

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Policy - Key Items to Include

- Define no-shows and late cancellations
- Determine a value for “the number of excessive events” when consequences apply
 - Can you give examples?
- Establish penalties for consumers with excessive patterns of no-shows and late cancellations
 - Can you give examples?

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Policy Specific Considerations

- Specify number of hours before pick-up time consumer must call to cancel or be labeled a “late cancellation”
- Set threshold for the number of allowable no-shows and late cancellations before suspending a consumer or terminating services for him or her
- Call a no-show/ late patron before infractions reach the penalty threshold to remind him or her of the policy
- Let patron know that agency is tracking their actions, thereby discouraging abusive behavior
- Establish progressive disciplinary policy for repeat offenders

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Other Policy Considerations to Encourage On-Time Behavior

- Fining or charging for no-shows or late cancellations
- Rewarding responsible patron (proven reliable over a defined period of time) with a free trip or other reward
- Requiring patrons with a history of no-shows or late cancellations to confirm their trips with dispatch at a specified period of time (e.g., a half hour) before the scheduled trip or the trip is canceled without penalty
- Contacting patrons with a problem history each night to confirm the next-day trip

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No One Right Answer

Consumer Behavior	Include Suspensions	Include Fines	No Fines or Suspensions
Excessive No-Shows	90.2%	20.3%	7.3%
Excessive Late Cancellations	56.2%	13.2%	40.5%

TCRP Synthesis 60

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NO-SHOW AND LATE CANCELLATION PROGRAM PROCEDURES

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What to Include in a Program

- Realistic expectations
- Consistently applied and monitored
- Means to cancel far in advance
- Good documentation
- Effective computer programs
- System to send letters
- Effective determination of fault
- Public outreach for input and communication

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Driver Procedures

- Direct drivers to:
 - contact dispatch to confirm trip information
 - await instruction
 - attempt contact with patron (if appropriate)
 - confirm the no-show before proceeding (or wait until specified time)

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Dispatcher/Reservationist Procedures to Prevent Errors

- Record information and repeat back
- Make same-day changes immediately
- Make future changes when convenient
- Use a trip-change form to record changes to make later
- Use a form to record changes to subscription/standing order trips
- If paper manifest, require drivers to use a form to record trip changes/added trips
- Train dispatchers to dispense trip information in a standard format

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Dispatch Procedures When No-Show Occurs

- Direct dispatchers to:
 - Attempt to contact patron to verify a return trip for that day
 - Call patrons who no-show on first trip of the day to determine if long-term issue
 - Cancel remaining trips for the day (or by policy)
 - Record circumstances using standardized form

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Staff Tracking/Monitoring Procedures

- Direct staff tracking/managing no-shows to:
 - Determine whether the patron was at fault
 - Investigate locations causing no-shows and be proactive in canceling trips in advance (workshop holidays)
 - Mail postcards or letters to consumers advising them of the apparent no-show
 - Maintain record of circumstances of the event, recording arrival time, contact attempt, departure time

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Example Analysis 1

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Example Analysis 2

Category: Range of Weekly Trips Scheduled per Patron	Total No. of Patrons	Total No. of Trips Scheduled	Avg. No. of Trips Scheduled per Patron	Category No-Show Rate
10 Trips or More	20	259	13.0	9%
5 to 9 Trips	51	325	6.4	11%
3 to 4 Trips	42	151	3.6	18%
1 to 2 Trips	68	118	1.7	18%
Total	181	853	4.7	12%
No. of Patrons w/ at least one No- Show	58			
% of Patrons w/ at least one No-Show	32%			

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POTENTIAL COST SAVINGS

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Decreased No-Shows to Increase Productivity

	Current Service	Service with Reduction in No-Shows
Scheduled Passenger Trips	45,455	45,455
Actual Passenger Trips	40,000	42,728
No-Shows	5,455	2,728
No-Show Rate	12%	6%
Revenue Hours	20,000	20,000
Passengers per Hour	2.00	2.14
Operating Cost	\$1,000,000	\$1,000,000
Cost per Passenger Trip	\$25.00	\$23.40

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Decreased No-Shows to Reduce Service

	Transit Agency
No-Show Reduction	2,728
Passengers per Hour	2.00
Estimated Revenue Hour Reduction	1,364
Cost per Hour	\$50.00
Estimated Savings	\$68,200

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Review

- What factors lead to no-shows/late cancellations?
- How do no-shows impact a transit agencies cost?
- What are no-show incentives and disincentives?
- Give example policy/procedure for managing no-shows
- How much can you save managing no-shows?

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***Remember, fill out the session review form.
We need to know how we can improve too!***

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QUESTIONS? COMMENTS?

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Choose A Breakout Session

- Contracting for Transit Services
- Future Trends and Forward Thinking Approaches



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Contracting for Transit Services



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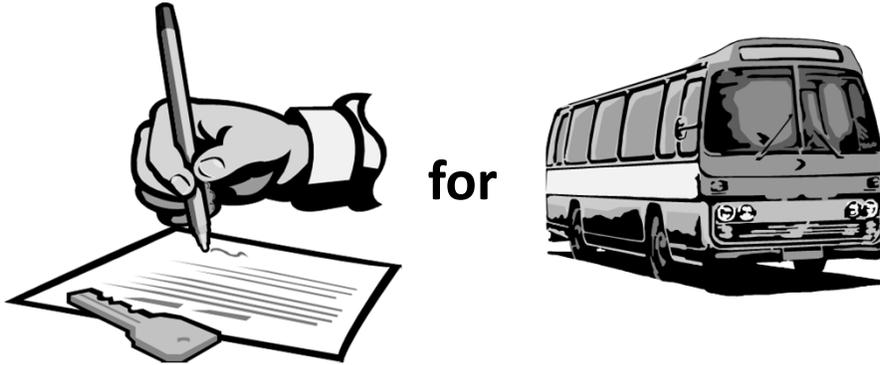
Learning Objectives

At the end of this lesson you will be able to...

- Name reasons why an agency might contract to deliver transit services
- Explain when it is feasible to reduce operating costs
- Identify potential cost savings and savings offsets
- Describe the steps for successful procurement process
- Identify best practices for contract management

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Contracting for Transit Services



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Scope of Contracted Services

- Management contract
- Transit services
- Turnkey contracts
 - Vehicles
 - Operating and maintenance (O&M) facilities

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Types of Contractors

- Another transit agency
- Human service transportation provider or non-profit agency
- Private for profit transportation company

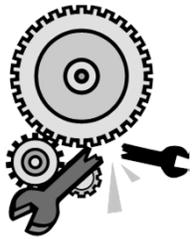
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Activity: Discussion and Examples

- Activity: Group discussion
 - Does your agency contract for transit services? What type of contractor?**
- Examples from across Texas
 - ?

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Why? Why not?

REASONS FOR CONTRACTING TO DELIVER TRANSIT SERVICE

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Why Contract for Transit Services?

- Secure specialized expertise
- Serve a niche market
- Enhance customer service
- Start new service or expand service quickly
- Avoid upfront capital costs by contracting for service and vehicles, especially for new service
- Reduce cost and improve operating efficiency

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Resources

- Transportation Research Board (TRB)
Special Report 258: Contracting for Bus and Demand-Responsive Transit Services
- Transit Cooperative Research Program (TCRP)
Research Results Digest 46: Supplemental Analysis of National Survey on Contracting Transit Services
- National Center for Transit Research (NCTR)
Analysis of Contracting for Fixed Route Bus Service

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or



or



or



A contract for service may or may not reduce operating costs

**HOW DOES A PRIVATE
CONTRACTOR REDUCE COSTS?**

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Reasons a Contractor Might Reduce Costs

- Lower payroll costs – wages and benefits
- Work practices
- Lower administrative overhead
- Expertise
- Use of technology
- Cost-effective maintenance procedures
- Flexibility

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Activity: Discussion and Examples

- Activity: Group discussion
 - Can you think of additional ways a contractor might be able to reduce the costs of providing transit services?**
- Additional ways to reduce costs
 - ?

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Savings Offsets – Possible Costs to Contract for Transit Services

- Transaction costs to procure transit services
- Agency transition costs, especially to change labor structure
- Agency contract management and oversight
- Contractor costs may increase with agency emphasis on performance

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Activity: Discussion and Examples

- Activity: Group discussion
 - Can you think of additional savings offsets?**
- Additional costs to consider before contracting for transit services
 - ?

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Is Contracting Transit Service a Good Option?

Possibly - Contracting might be cost-efficient

- Strong need for flexibility
- Level of service is easy to quantify
- Private agency can provide needed expertise
- Your agency has relatively high costs for...
 - Wages
 - Generous benefits
 - Restrictive work rules

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Is Contracting Transit Service a Good Option?

Probably Not - Contracting might increase cost

- Potential cost savings not easy to calculate
- Estimated costs savings are minimal
- Lower cost may sacrifice effectiveness
- Lack of private sector competition
- Procurement is not transparent
- Agency sacrifices public control

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Activity: Case Study Example

- Please take a few minutes to review information for the case study agency
Should the case study agency considering contracting for transit services?
- Why? Why not?

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Effects on Agency Employees

- Transit agencies must confer with legal counsel to determine the applicability and impact of federal protections for transit workers
- You must assess risk associated with Section 13c of the Federal Transit Act



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Resources

- U.S. Department of Labor Fact Sheet on Protections for Transit Workers.
http://www.dol.gov/olms/regs/compliance/special_warranty.htm
- Transit Cooperative Research Program, Legal Research Digest, Transit Labor Protection-A Guide to Section 13(c) Federal Transit Act, Transportation Research Board, Washington D.C., June 1995.

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Requirements in the contractor scope of services can impact cost savings

DEVELOPING A SCOPE OF SERVICES

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Develop a Clear and Specific Scope of Services

- Describe the span of service
- Specify the level of service
- Identify the resources required
- Outline minimum expectation for supervision, management, and administration
- Establish performance standards
- Define link between level of service and performance requirements

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Items in Scope of Services that Can Significantly Impact Cost

- Fuel
- Insurance
- Vehicle maintenance
- Reservations & scheduling demand response
- Routing & scheduling fixed route transit
- Dispatch
- Technology
- Vehicles
- O&M facility

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Is Contracting Turnkey a Good Option for Your Agency?

- Elements of a Turnkey contract
 - Service
 - Maintenance
 - Vehicles
 - O&M Facility
- Benefits
 - Contractor provides capital investment
- Risks
 - Contractor owns the capital assets
 - Increases operating costs to include amortized capital

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Capital Cost of Contracting

- Contracting for turnkey transit services may permit some expenses to be eligible as capital expenses (80% capital cost reimbursement)
 - Maintenance
 - Vehicle cost
 - Operations facility cost
- Must be a private contractor
- Review the most recent legislation and FTA guidance

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Activity: Discussion and Examples

- Activity: Group discussion

**Has your agency had experience applying the
Capital Cost of Contracting benefit for a
turnkey contract?**

- Tell us about your experience

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Resources

- Federal Transit Administration, Circular 9030.1D Urbanized Area Formula Program: Program Guidance and Application Instructions, Last Revision May 10, 2010.

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The method matters, affects outcome

CHOOSING THE RIGHT PROCUREMENT PROCESS

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Assess Competitive Market

- Research possible contractors
- Issue a request for interest
- Provide an opportunity for open discussion
- Hold a pre-proposal conference

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Types of Procurement

- Invitation for bid (IFB)
- Request for proposals (RFP)
- Two-step procurement
- Best value procurement
- Non-competitive procurement

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Activity: Choosing the Best Procurement Method

- Activity: Please take a few minutes to review the list of procurement methods and contracting opportunities

Match each procurement method to the most appropriate contracting opportunity?

- Discuss the best match and why



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Resources

- Federal Transit Administration, Best Practices Procurement Manual, Issued November 2001, Last Revision October 2005.
- Federal Transit Administration, Third Party Contracting Guidance (FTA Circular 4220.1F), Revised April 14, 2009.
- Federal Acquisition Regulations (FAR), FAR 37.6 Service Contracts.
<https://www.acquisition.gov/FAR/>

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Learning from other's experiences

BEST PRACTICES FOR CONTRACT MANAGEMENT

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Suggestions for Selecting the Contractor

- Consider cost and qualifications
- Clearly define selection criteria
- Use internal cost estimates as a baseline
- Contact with your peers for references
- Ask contractors to self-identify issues in previous performance
- Research if the issues were remedied

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Ensuring Quality Service

- Maintain public control of strategic planning, service and performance standards
- Outline all duties and roles of all parties
- Establish clear mechanism to make changes
- Define all expectations for service quality
- Use performance measures and reporting practices to monitor quality
- Include penalties & rewards for performance

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Attributes of Good Performance Measures

- Relevancy
- Understandable
- Comparable
- Timely
- Reliable

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WRAP-UP

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Review

- Why might an agency contract transit services?
- What are some circumstances that make it feasible for a private contractor to reduce operating costs?
- What are the cost savings and savings offsets to consider before contracting for services?
- What are the steps for successful procurement?
- What are best practices for effective contract management?



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We need to know how we can improve too!***

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QUESTIONS? COMMENTS?

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Future Trends and Forward Thinking Approaches



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OVERVIEW: Cost-Saving Categories

- Use of technology.
- Innovative service design
- Fleet mix and fuel efficiency.

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Learning Objectives

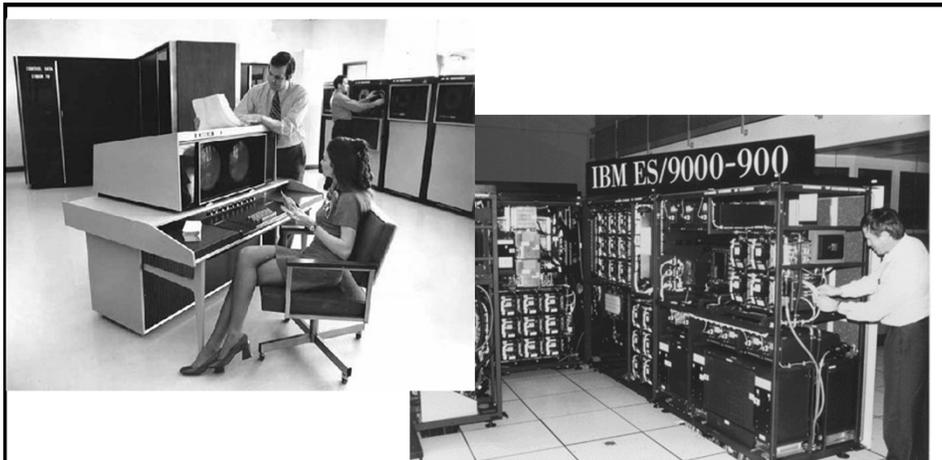
At the end of this lesson you will discover how your peers:

- Use Technology and Social Media to connect system information and the customer and contain costs
- Develop service designs that maximize efficiency
- Establish fleet mix characteristics which help reduce cost

Additionally, you will learn:

- Examples of Statewide and National examples which have helped contain costs
- Where/how to research and identify more approaches

105



UNDERSTANDING AND IMPLEMENTING NEW AND RECENT TECHNOLOGY

106

Technology Purposes

Technology Type	Purpose
Fleet Maintenance Software	Able to track repair, capital maintenance and consumables costs by vehicle, across a fleet or disaggregated by fleet type or service purpose.
Dispatch and Scheduling Software	Software designed primarily to dispatch demand-response trips and trip updates. Can be used to dispatch modified fixed-route trips and provide drivers real-time road and schedule information regardless of service type.
Mobile Data Computers and similar devices	Hardware such as on-bus terminals, computer tables with WiFi and smart phones. AVL hardware and GIS software
Communication Systems	Two-way radio systems or Cell tower based phone systems

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Technology Benefits

Technology	Benefits
Fleet Maintenance Software	<ul style="list-style-type: none"> Track and schedule preventive maintenance inspections. Understand actual operating costs through development of periodic reports. Develop centralized maintenance scheduling and repair, including regional maintenance sites shared by multiple transit providers.
Dispatch and Scheduling Software	<ul style="list-style-type: none"> Increase passenger boardings per vehicle trip. Improve real-time information from satellite service centers to centralized dispatch centers. Increase the ability of a central-dispatch facility to update driver schedule information in real-time. Enable planning staff to extract trip reports to help evaluate route performance.
Mobile Data Computers and Similar Devices ³	<ul style="list-style-type: none"> Convey scheduling information directly to drivers, improving communication efficiency re: schedule information. Facilitate driver reassignment (e.g., change trip assignments) on short notice. Enables trip report information to flow directly back to central dispatch in real time. Forecast arrival of buses at locations.
Communication Systems	<ul style="list-style-type: none"> Leverage a regional radio- or cell-tower platform capable of linking your entire service area (allows for centralized control of dispatch and scheduling).

108

The popularity of web-based networking sites such as Facebook, Twitter, and blogs have led private enterprise and government to embrace these channels for communicating with customers.

TCRP Synthesis 99

New and Recent Technology

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Social Media (the Other Technology)

Types of Social Media

- Facebook
- LinkedIn
- Twitter
- Blogs

New and Recent Technology

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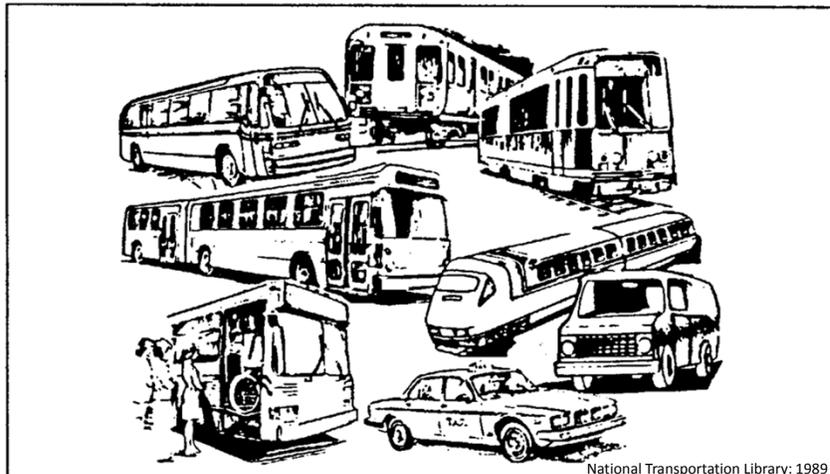
Social Media

Transit agency uses for social media:

1. Better engage with citizen feedback
2. Enlighten passengers with more detailed route and schedule information
3. Provide prompt updates regarding service changes or disruptions

New and Recent Technology

111



National Transportation Library: 1989

**INNOVATIVE SERVICE DESIGN AND
IMPACT OF CHANGING DEMOGRAPHICS**

112

Tools: Four-Step Model

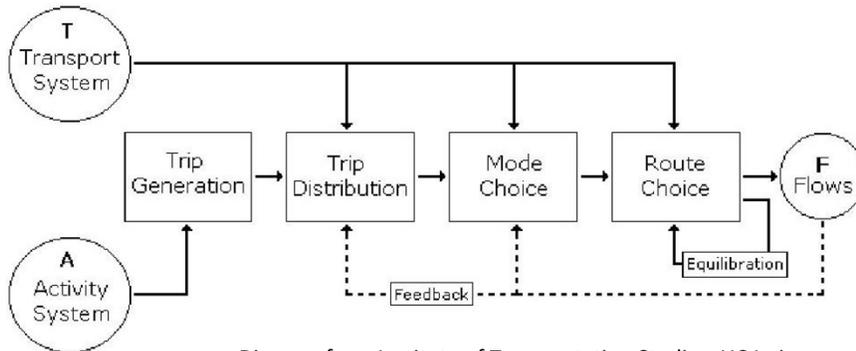


Diagram from Institute of Transportation Studies, UC Irvine

Innovative Service design and impact of changing demographics

113

Service Innovations

Occur when transit agencies adapt themselves to:

- Changing demographics
- New Technology
- Economic Challenges

Innovative Service design and impact of changing demographics

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Coordination vs. Connectivity

- Coordination: implies the ability to maximize resources within a specific service area with service often provided by one agency serving the general public and/or multiple social service agencies

Innovative Service design and impact of changing demographics

115

Coordination vs. Connectivity

- Connectivity: development of inter-agency or inter-governmental service agreements between service agencies

Innovative Service design and impact of changing demographics

116

Connectivity - Advantages

- Seamless fare payment
- Connect rural and urban providers with consistent branding
- Improved service frequency
- Enhanced route information

Innovative Service design and impact of changing demographics

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FLEET MIX AND FUEL EFFICIENCY

118

Fleet Mix

- Optimal Vehicle Size (demand based)
- Larger Vehicles to enhance ridesharing
- Optimal Vehicle Type (low-floor)

Fleet Mix and fuel efficiency

119

Fleet Mix Criteria

- Maintenance
 - Ability to maintain fleet in-house
 - Standardized components such as engine, drive train, HVAC and other major components



Fleet Mix and fuel efficiency

120

Fleet Mix Criteria

- Fleet Mix
 - Lift vs. low-floor ramp equipped
 - Homogenous Fleet Design

Fleet Mix and fuel efficiency

121

Fleet Mix - Maintenance

- Development of Regional Maintenance Facility
- Contracting with another Government or transit provider for maintenance
- Expanding in-house maintenance to reduce reliance on third-party providers

Fleet Mix and fuel efficiency

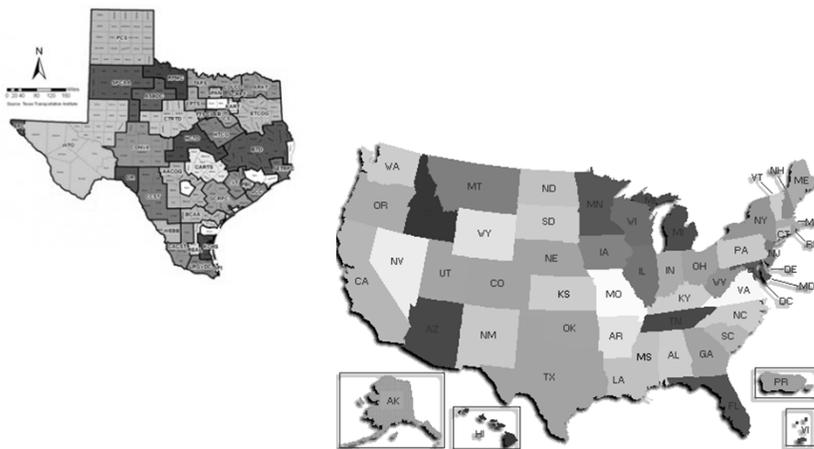
122

Fuel Efficiency

- Negotiating bulk fuel purchases with vendors to reduce cost.
- Providing on-site refilling at local facilities
- Controlling the fuel quality delivered and used

Fleet Mix and fuel efficiency

123



**STATEWIDE AND NATIONAL
DEPLOYMENT EXAMPLES**

124

New and Recent Technology

Lessons Learned: Assigning Tablets to Drivers to Capture Trip Information Fort Smith Transit

After assessing MDCs for their demand-response fleet, Fort Smith Transit in Arkansas purchased tablets for each driver for \$700 each (compared to \$3,000 per MDC). The agency purchased extra units for relief drivers and as spares. Drivers have individual email addresses, so schedules are dispatched directly to each driver's tablet instead of an assigned vehicle. Other advantages of the tablets include:

- More accurate tracking of passengers per hour
- Drivers receive updated schedules in real time
- Rapid reprogramming allows for quick replacement or reassignment.
- A low-cost software application allows rich data entry
- Language translation abilities
- Individually assigning tablets allow after hours driver contact
- Using off-the-shelf applications
- Monthly operational costs are limited to the cell data plans for each tablet.
- Using a locator application enables dispatchers to find specific vehicles on duty.

Fort Smith Transit employed drivers who had "never turned on a computer," but the agency trained and transitioned all drivers to this paperless system using multiple applications installed on the tablets.

Statewide and national deployment examples

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New and Recent Technology

Lessons Learned: Mash-Up and GTFS Use Brazos Transit District (BTD)

BTD developed a fixed-route mash-up that displays route corridors in each of their serviced urban areas. Users type in their street address and street name, then select "Find Address." The map zooms automatically to identify the route closest to that address point.

Adding GTFS data to this platform can benefit end-users by:

- Displaying text-based navigation enhancements (e.g., a table of contents).
- Providing schedule table links to each bus stop within a fixed-route system.
- Enhancing the overview (provided by the mash-up) to provide route-specific information on a large scale as end-users zoom in on a given service area.

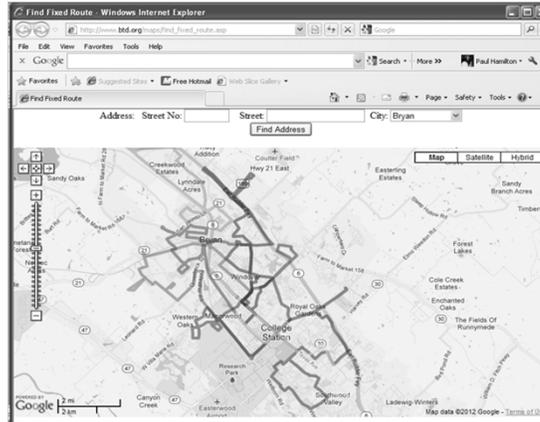
You can develop maps for defining service routes similar to BTD's using free Google tools online

Statewide and national deployment examples

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New and Recent Technology

Mash-Up and GTFS Use Brazos Transit District (BTD)



Statewide and national deployment examples

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Innovative Service design and impact of changing demographics

Lessons Learned: Future Trends Wichita Falls - Falls Ride

Sharp Lines provides intercity bus and rural service into Wichita Falls, but Falls Ride had no location to conduct passenger transfers between bus systems. Falls Ride is currently building an intermodal transfer center to allow intercity operators, the rural provider, and city bus service to leverage ridership via a common transfer point. This will increase convenience for riders and operators.

Statewide and national deployment examples

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Fleet Mix and fuel efficiency

Lessons Learned: Regional Maintenance and Fleet Mix - Waco Transit

In 2005, Waco Transit became the first Texas agency to fully deploy a regional maintenance facility for their small-urban fleet and the fleet of the Heart of Texas Rural Transit District (HOTRTD, Waco's rural provider). Drawing from the larger combined fleet and two maintenance budgets allowed them to pay mechanics a more competitive wage and distribute the facility's capital costs between two transit systems. Waco received funding from FTA 5309 in 2002. Intended to service both Waco Transit and HOTRTD, the facility was constructed at a cost of \$5.2 million.

- Interlocal agreement finalized in 2010 to form the regional maintenance system
- Performance metrics are beginning to show results
- Implementation Challenges
- Standardized urban fixed-route fleet

Statewide and national deployment examples

129

Other Fleet Considerations

Lessons Learned: Pedestrian and Bicycle Considerations Longview Transit

Longview Transit identified pedestrian and bicycle access as an important aspect of route development. During route evaluation, the agency has collected data on bus-stop inventory including amenities such as benches, signage, bike racks, and pedestrian access. These are seen as important elements to help grow access to transit routes for more persons living along route corridors.

Statewide and national deployment examples

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Other Fleet Considerations

Lessons Learned: Bicycle Racks on Buses (BOB) – CARTS

- CARTS installed BOBs on all fixed-route buses and commuter-bus routes. These amenities currently receive light use, but have a growing presence in the growing San Marcos campus community.
- BOB overloads or left-behinds are already common.
- Over time, risk-averse will leave their bicycle at their trip origin.



Statewide and national deployment examples

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Activity: Localizing Savings from Implementation

IDENTIFICATION AND IMPLEMENTATION OF NATIONAL TRENDS (TECHNOLOGY)

132



Technology Activity

- What technology to consider?
- How can our system benefit?
- What is our current status...goals?
- Identify new technology to deploy
- Develop deployment plan
- Identify metric to evaluate deployment
- Identify deployment concerns

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Technology Activity

- Technology Used?
- System Benefit(s)?
- Deployment Plan elements (chronologically)
- Identify metric to evaluate deployment
- Identify deployment concerns

134

Review Technology

- Technology
 - Fleet Maintenance
 - Dispatch and Scheduling
 - Mobile Data Computers
 - Communication Systems

135

Review Service Design

- Service Design
 - Planning Elements (four-step model)
 - Data collection from Technology Devices
 - Coordination to Connectivity

136

Review Fleet Mix

- Fleet Mix
 - Homogenous or Standardized (hybrid)
 - How service type and maintenance play a part
 - Regional Maintenance
 - Multiple Maintenance facilities

137

Review Funding

- Limited Federal and State funding

According to the American Association of State Highway Officials, the average State funding for transit in 2008 was \$42.50/person while Texas transit funding stood at \$1.18. (The Texas Department of Transportation 2010).

HB 3588, Article 13 mandated the coordination of public transportation and tasked TxDOT with identifying inefficiencies in public transportation services.

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Questions?

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***Remember, fill out the session review form.
We need to know how we can improve too!***

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QUESTIONS? COMMENTS?

140

Choose A Breakout Session

- Buying Fuel and Managing Consumption
- Staff: Managing Shifts, Managing Costs



141

Buying Fuel and Managing Consumption



142

Why Manage Fuel?

“Fuel is the highest transit agency cost after labor and fringe benefits”

143

% of Budget That is Fuel

Operating Expense Category	Transit Agency Types in Texas				
	State-Funded (10 Agencies)	Urban (10 Agencies)	Dual Rural/Urban (5 Agencies)	LEP (2 Agencies)	Rural (10 Agencies)
Salaries and wages		44%	44%	57%	52%
Fringe benefits		20%	16%	20%	14%
Services		11%	13%	2%	2%
Fuel and lubricants		10%	12%	13%	17%
Tires and tubes		1%	1%	2%	2%
Other materials/ supplies		9%	4%	4%	3%
Utilities		2%	1%	1%	2%
Casualty and Liability Costs		3%	2%	1%	4%
Purchased Transportation		0%	0%	0%	0%
Miscellaneous Expenses		1%	7%	0.2%	4%
Leases and Rentals		0.1%	0.1%	0%	0%
Total Operating Expense		100%	100%	100%	100%

144

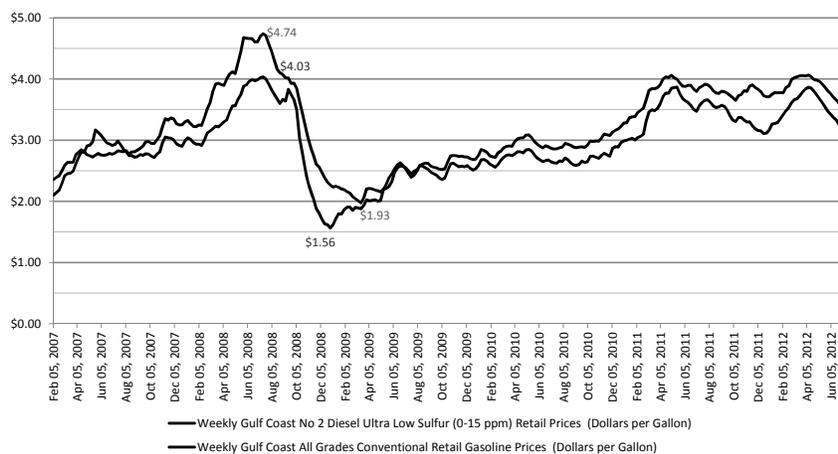
Learning Objectives

At the end of this lesson you will be able to...

- Identify controllable/ uncontrollable factors of fuel cost
- Describe fuel purchasing strategies
- Describe management of fuel consumption strategies
- Describe impact of fuel efficiency improvements

145

Historical Fuel Prices



146

Activity: Determine Uncontrollable and Controllable Cost Factors

FUEL COST FACTORS

147

Factors That Drive Fuel Cost

- Distance to fueling station
- Fuel purchasing methods
- Monitoring fuel usage
- Monitoring excess idling
- Driver speed and smooth vehicle training
- Adequate tire pressure
- Transmission, front-end alignment and steering control
- Fleet mix to meet service demand

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FUEL PURCHASE METHODS

149

Texas Transit Districts Fuel Purchase Methods

Transit Provider Type	Transit Agency Response	Maintain On-Site Fuel Tank(s)	State Fuel Cards	Private-Company (Non-State) Fuel Cards	City and/or County Agreements	Local Fuel Station Agreements	Contractor Provided Fuel
Dual Rural and Small Urban	8 of 8	3	0	5	4	2	2
Limited Eligibility Provider	3 of 4	2	0	1	0	0	1
State-Funded Urban	14 of 14	14	0	4	2	3	4
Rural	29 of 30	5	4	21	9	6	5
Total	54 of 56	24	4	31	15	11	12

150

On-Site Fuel Tanks

Considerations:

- Purchase fuel in bulk
- Geographically concentrated service area
- Utilizing alternative fuels – no local alternative
- Taking advantage of conducting routine maintenance while fueling
- Environmental impact if spillage
- Cost of tank
- Security and monitoring of fuel

Advantage is the ability to purchase fuel in bulk

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Fuel Cards

Provide:

- Means to electronically manage fuel consumption
- A backup means to purchase fuel
- Convenient fueling locations
- Diesel fueling facilities
- Access to discounted fuel

*Provides convenient means to operate efficiently
in the dispersed areas*

152

Fueling Agreements

Considerations:

- Agency is a division/dept. of city/county and can take advantage of bulk fuel purchase
- Local service stations provide convenience, especially in remote areas
- Local service station provides alternative fuels
- City and county agreements throughout service areas provide access to bulk prices
- Ability to track use

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Contractor-Provided Fuel

Considerations:

- No tax savings
- May have bulk purchase advantage
- Removes administrative monitoring burden
- Removes some volatility of monthly rate change
- May meet small- or disadvantaged business requirement of your agency

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REDUCING FUEL CONSUMPTION

155

Fuel Efficient Driving Techniques

Can Improve Fuel Efficiency by 5 to 10 Percent

- Reducing excess idling (over 3 to 5 minutes)
- Maintaining consistent vehicle speed
- Accelerating and decelerating smoothly
- Using vehicle momentum to maintain speed
- Avoid filling the gas tank to the very top
- Avoid pumping the accelerator pedal
- Avoid riding the brakes
- Avoid hard turning

156

Fuel Efficient Maintenance

- Bus tires properly inflated and maintained
- Adjust transmissions
- Front-end alignments
- Steering control arms

157

Create a Culture that Values Fuel Efficiency

- Post average fuel economy (by driver, by route, by vehicle)
- Set goals for fuel economy
- Reward good performers
- Retrain poor performers
- Focus technical-support interventions on the 10 percent of the fleet showing the lowest fuel economy

158

SERVICE DESIGN AND FLEET MIX

159

Service Design Considerations

- Minimizing deadhead miles
- Scheduling to maximize productivity (reduce number of vehicles on road)
- Vehicle storage sites (home storage)
- Policies to control no-shows and late cancellations (avoid unnecessary trips)

160

Fleet Mix Considerations

- Match service needs with fleet size and specifications
 - Small sedans for ambulatory needs and greater maneuverability
 - Vans for vanpools, circulators
 - Commuter bus for longer distance work trips
 - Wheelchair equipped buses for wheelchair users

*Maximize fuel efficient vehicles
as service demand allows*

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Fleet Mix: Resource

TCRP Report 146: *Guidebook for Evaluating Fuel Choices for Post-2010 Transit Bus Procurements* is a good source for evaluating

162

Alternative Fuel Considerations

- Unavailability or interruption in fuel supply
- Fuel-specific equipment and parts
- Maintenance and warranty
- Retrofitting garages
- Training employees
- Fuel price per diesel gallon equivalent

TCRP Report 146 provides a spreadsheet tool, "FuelCost2," for making decisions regarding lifecycle costs of vehicles with differing fuel types.

163

Establish a Culture of Fuel Efficiency

Remember:

- Fuel is 10 to 20% of operating budget
- Controllable factors: efficient purchasing methods, monitoring performance, pairing vehicle types with services need (vehicle fleet mix), efficient scheduling, and quality maintenance
- On-site fuel provides pricing advantage of purchasing in bulk
- Fuel agreements are beneficial for operating across wide service areas
- Fuel cards can streamline transactions and removing administrative costs and carry risk—including the potential for waste, fraud, and abuse—so proper monitoring is necessary.
- Are alternative fuels right for your agency? Consider purchase of new vehicles or the conversion of existing vehicles to fuel-specific needs, employee training, additional infrastructure
- Schedulers can minimize deadhead miles or redesign routes
- Properly training drivers and maintaining vehicles routinely

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Review: Learning Objectives

- What are some of the fuel cost controllable/uncontrollable factors?
- What are some ways to purchase fuel?
- How can you manage fuel consumption?
- What might be the impact of managing fuel consumption and implementing procedures?

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***Remember, fill out the session review form.
We need to know how we can improve too!***

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QUESTIONS? COMMENTS?

166

Staff: Manage Shifts, Manage Costs



167

What are the following %'s?

- 44% State-Funded Urban
- 44% Dual Rural/Urban
- 57% LEP
- 52% Rural

Salaries and Wages as % of Operating \$'s

168

Learning Objectives

At the end of this lesson you will be able to...

- Evaluate current management practices
- Employ information to manage operator and dispatcher shifts
- Recall basic issues and strategies surrounding costs for transit operations staff



169



The purpose of managing staff shifts

PRODUCTIVITY VS. COST-SAVINGS

170

Productivity vs. Cost-savings

- What is productivity?

Typically, productivity is defined as the number of passenger trips per hour or mile carried by revenue vehicles.

- What is the impact of productivity?

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Impact of Productivity

- Decrease resources needed to provide service
- OR**
- Increase service level using same resources

Table 3-2. Increased Productivity Scenarios.

Scenario "A" or "B"	Annual Revenue Hours	Annual Passenger Trips	Passengers per Revenue Hour	Operating Cost for Revenue Hours	Operating Cost per Revenue Hour	Operating Cost per Passenger Trip
Existing Service and Productivity	62,500	125,000	2.00	\$ 2,250,000	\$ 36.00	\$ 18.00
<i>Increased Productivity</i>						
A Save Money	- 1,820		+ 0.06	- \$65,534		- \$0.52
(↑ Productivity) = (↓ Revenue Hrs)	60,680	125,000	2.06	\$ 2,184,466	\$ 36.00	\$ 17.48
B Serve More Passengers		+ 3,750	+0.06			- \$0.52
(↑ Productivity) = (↑ Pass Trips)	62,500	128,750	2.06	\$ 2,250,000	\$ 36.00	\$ 17.48

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Tools and information to help agencies self-evaluate.

EVALUATE CURRENT PRACTICES

173

Looking in the Mirror

- Activity: refer to materials packet
- Take ~3 minutes, answer each question

<i>Question</i>	<i>Yes</i>	<i>No</i>
Does your agency have key performance indicators to monitor operator performance?	<input type="checkbox"/>	<input type="checkbox"/>
Does your agency have key performance indicators to rate dispatcher performance?	<input type="checkbox"/>	<input type="checkbox"/>
Does your agency ever compare performance with peer agencies?	<input type="checkbox"/>	<input type="checkbox"/>
Do you strategically manage the amount of full- and part-time staff to control labor costs?	<input type="checkbox"/>	<input type="checkbox"/>
Do you cross-train operators to cover routes other than their own when needed?	<input type="checkbox"/>	<input type="checkbox"/>
Do you cross-train supervisors or operators to adequately back up dispatchers when needed?	<input type="checkbox"/>	<input type="checkbox"/>
Do you have policies for staff tardiness, absences, vacations, holidays, and lunch or other breaks?	<input type="checkbox"/>	<input type="checkbox"/>
Do operators and dispatchers understand and comply with policies most of the time?	<input type="checkbox"/>	<input type="checkbox"/>
Do managers consistently hold staff appropriately accountable for following internal policies?	<input type="checkbox"/>	<input type="checkbox"/>

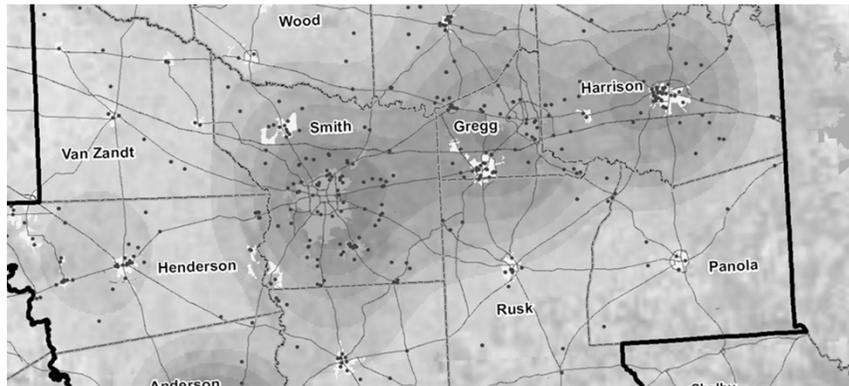
174

Results, Thoughts, Discussion?

- “NO” to any of the questions?
 - May be opportunity for productivity/cost-savings
- “YES” to all questions?
 - Great!
 - But, room for improvement may still exist



175



Information is the basis of informed management decisions.

**INFORMATION & ANALYSIS
USEFUL FOR MANAGING STAFF LEVELS**

176

Types of Analysis

- Operator related . . .
 - Productivity by driver or vehicle
 - Slack time by vehicle (unused revenue time)
 - Overlap in service, potential for more ridesharing
- Dispatcher related . . .
 - Shifts based on call volume trends
 - Call answering performance

What do all of these have in common?

177

Dispatch's Central Role

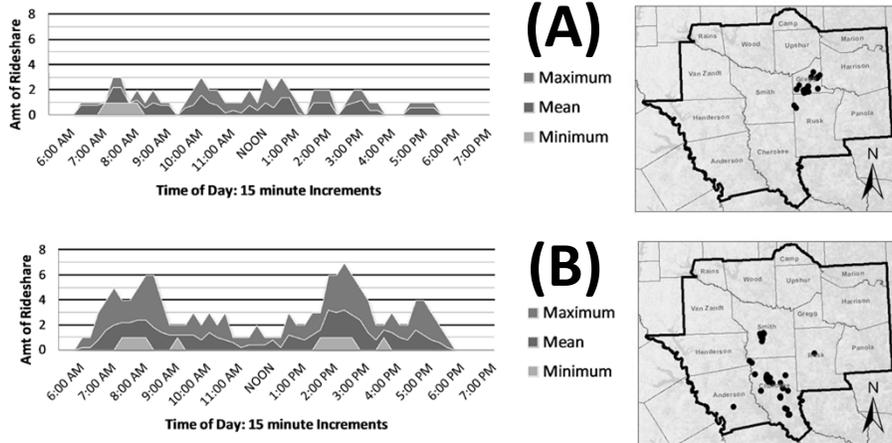
Dispatch staff have the most impact on a transit agency's productivity, followed closely by the impact of drivers.

Productivity affects both quality and cost of transit service.

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Example: Slack Time Analysis

Which vehicle's manifest is more productive?



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Example: Productivity by Driver

$$\text{Productivity} = \frac{\text{Number of passenger trips}}{\text{Number of revenue hours or miles}}$$

Table 3-3. Example of Productivity by Driver.

Driver	Revenue Hours	Passenger Trips	Productivity
Driver A	19	59	3.1
Driver B	18	30	1.7
Driver C	13	31	2.4
Driver D	13	47	3.6

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Example: Dispatch Concept

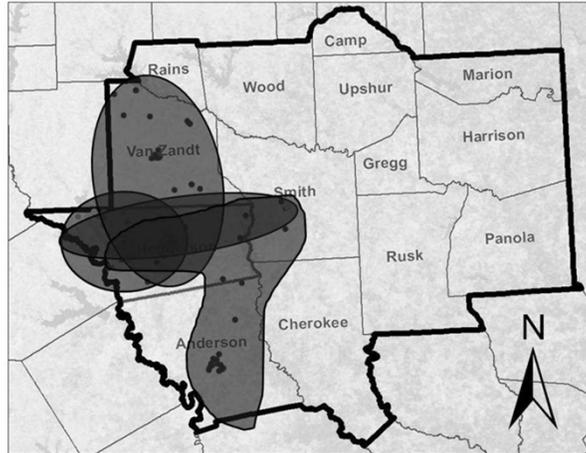


Figure 3-4. Identifying Data by Vehicle.

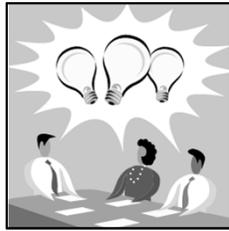
181

Activity 2

“How many dispatchers do we need?”

- Locate materials for activity
- Form groups of 2 or 3
- Use 7-8 minutes to work through handout
- Afterward, we will discuss as a group

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Many best or better-practices are easy to implement, but require diligence to sustain and realize the full benefit of the change.

PRACTICES TO REDUCE LABOR COSTS AND IMPROVE SERVICE

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Best or Better Practices

- Require operators to turn in manifest information daily, reporting anomalies etc.
- Track attendance and on-time arrival to work
- “Extra-board” backup for operations staff
- Staff based on demand (call volume, trip requests)
- Monitor performance by operator

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Best or Better Practices, contd.

- Communicate expectations clearly
 - Clear job descriptions and understanding of roles
 - Rider's guide
- Reduce slack-time or use it more effectively
- Assign operators & dispatchers to similar geographies etc.
- Assign operators to the same vehicle

185

Other thoughts or practices?

- The people in this room possess a great deal of collective experience...
- Activity 3
 - Each table take 5 minutes to discuss ideas for best or better practices for managing operations staff
 - Try to come up with one or two ideas or thoughts to share with the class

186

Review: Learning Objectives

Now that we are at the end of this lesson, can you...

- Evaluate current management practices
- Employ information to manage operator and dispatcher shifts
- Recall basic issues and strategies surrounding costs for transit operations staff

187

***Remember, fill out the session review form.
We need to know how we can improve too!***

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QUESTIONS? COMMENTS?

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Closing General Session

What Did You Learn?

189

Workshop Review

- Purpose: To provide a toolkit for rural and small urban transit agency managers and staff to better analyze, track, predict and manage operating costs.

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Workshop Topics

- Vehicle replacement plans and state of good repair
- Minimizing no-shows and late cancellations
- Contracting for transit service
- Future trends and forward thinking approaches
- Buying fuel, managing consumption
- Managing staff shifts

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Workshop Feedback

- What will you do with the information when you return to your transit agency?

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Thank You

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