Better Data, Better Decisions

June 11, 2012 Webinar

CALIFORNIA TRANSIT ASSOCIATION

PRESENTERS

- **Mary Sue O'Melia, President – TransTrack Systems, Inc.**

  Business Intelligence for the Transit Industry

- **Paula Faust, Deputy Director of Transportation – Gardena Bus Lines**

  Case Study for Creating A Statistical Information System

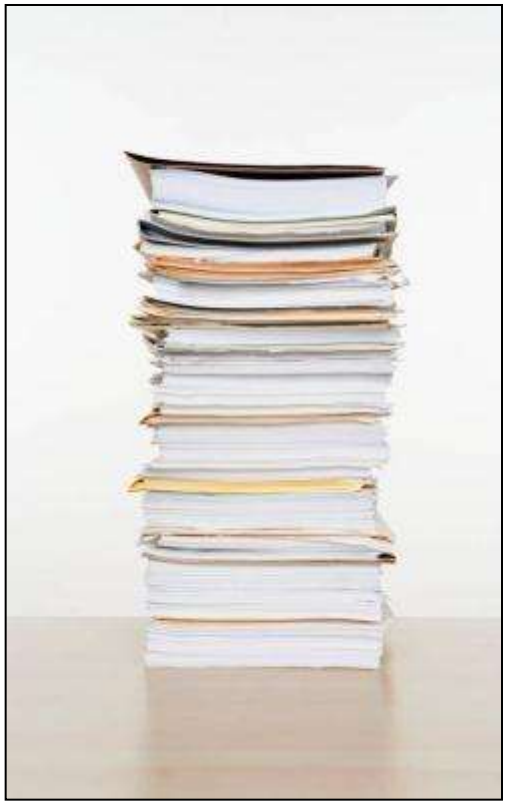
- **Gloria Salazar, Assistant General Manager & Chief Financial Officer – San Joaquin Regional Transit District**

  National Trends and Peer Reviews

CALIFORNIA TRANSIT ASSOCIATION

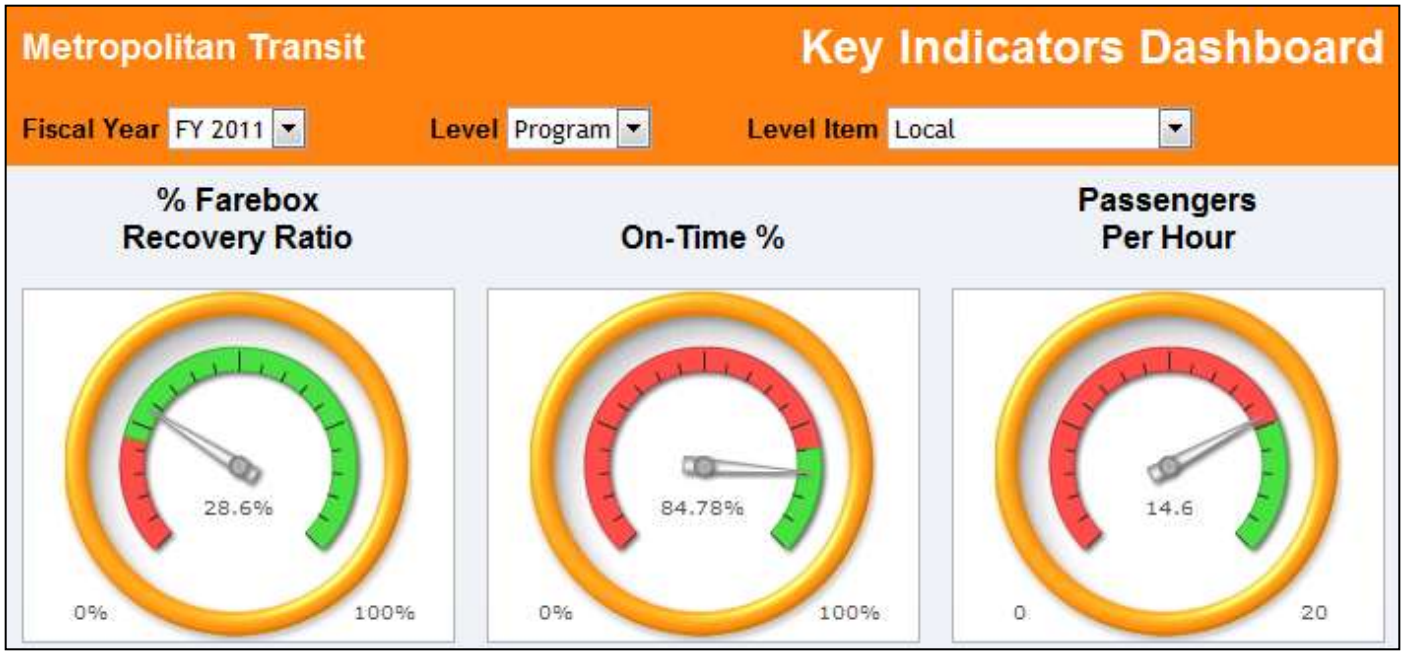
DATA OVERLOAD

- **Transit agencies are overwhelmed with data from many sources**
- **Basis for performance data is inaccessible or fragmented**
- **Credibility and reliability is often impacted by data inconsistencies**
- **Collecting and maintaining data is expensive and time-consuming**



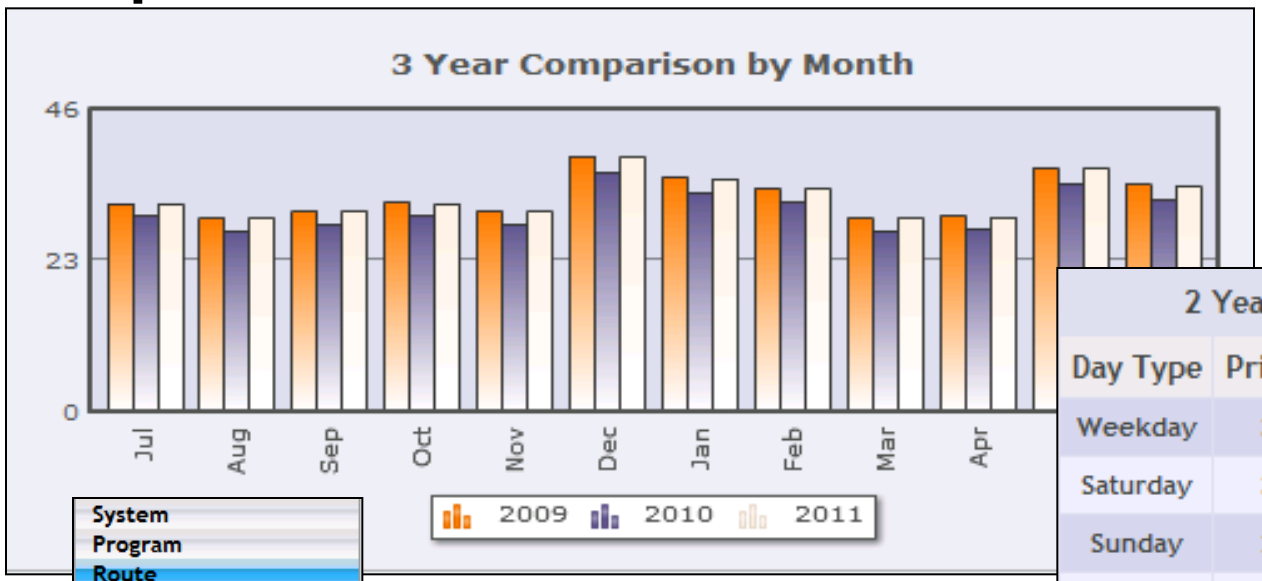
BUSINESS INTELLIGENCE

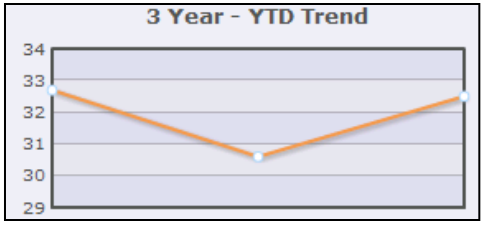
- **Executive Reporting System – Accurate and timely information for strategic decision-making**



DASHBOARDS & DRILLDOWNS

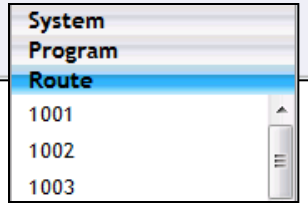
- **Decision Support System – Consolidate information for tactical decisions to improve performance**





2 Year Variance by Day Type

Day Type	Prior FY	Current FY	% Variance
Weekday	36.0	38.2	1.06
Saturday	30.6	32.5	1.06
Sunday	25.2	26.8	1.06
Total	30.6	32.5	1.06



BI – HOW TO GET THERE

- **Key Indicators & Data –** Decide on what to collect and how often to report; establish a baseline
- **Best Practices –** Document sources and on-going processes; provide data definitions; set targets
- **Single Source of Data/Distributed Access –** Get data at the source; eliminate time-consuming data reconciliations
- **Management Commitment –** Use it and stay vigilant

KEY INDICATORS & DATA

- **Decide on what to collect and how often to report**
  - Who will be using data and for what purpose?
  - How important is data to overall agency performance?
  - What is the baseline for assessing performance?

Daily Report	Monthy Report	Annual Report
Accidents	Passengers	NTD Reporting
Roadcalls	Hours & Miles	Passenger Miles
Late Pull-Outs	Fare Revenue	Engery Consumption
Missed Trips	Operating Cost	Employee Hours
	Complaints	Attendance & Overtime
	Schedule Adherence	

SIMPLE OR COMPLEX REPORTS

Performance Measures	2nd Qtr FY 2012	2nd Qtr FY 2011	% Change	Performance Target	Period Meets Target?	YTD FY 2012	YTD Prior Fiscal Year	% Change	YTD Performance Target	YTD Meets Target?
Cost Per Revenue Hour	$102.20	$96.52	5.88%	<= $90	No	$103.27	$95.26	8.41%	<= $90	No
Farebox Recovery Ratio	23.59%	22.81%	3.42%	>= 25%	No	23.68%	22.16%	6.86%	>= 25%	No
Average Fare	$1.41	$1.53	(7.84)%	>= $1.30	Yes	$1.46	$1.48	(1.35)%	>= $1.30	Yes
Subsidy Per Passenger	$4.56	$5.18	(11.97)%	<= $4	No	$4.69	$5.19	(9.63)%	<= $4	No
Passengers										
Passengers Per Revenue Hour										
Complaints Per 100,000 Passengers										
Miles Between Service Interruptions										
Total Miles Between Preventable Accide										
% of Trips On-Time										
% of Trips Completed										
Load Factor										

Service	Passengers		Passengers Per Revenue Hour		Farebox Recovery Ratio	
	Prior Year	Current Year	Prior Year	Current Year	Prior Year	Current Year
Route Subtotals						
1	9,573	9,640	14.3	14.8	19.17 %	16.66 %
12	338	631	2.8	4.8	21.41 %	24.55 %
15	242	196	12.4	9.4	137.00 %	78.62 %
21	1,195	1,398	5.7	6.9	7.33 %	7.63 %
3A	3,305	3,297	14.2	14.8	23.20 %	20.30 %
3B	2,837	2,695	12.8	12.5	18.67 %	14.63 %
7A	2,096	2,618	9.2	12.1	13.31 %	13.65 %
7B	2,702	2,905	15.0	13.4	19.83 %	15.84 %

December 2011								December 2010			FY 2012 To Date			
Patrons	Fare Revenue	Operating Expense	Revenue Service Miles	Revenue Service Hours	Patrons Per Hour	Farebox Recovery Ratio	Subsidy Per Patron	Patrons Per Hour	Farebox Recovery Ratio	Subsidy Per Patron	Patrons	Patrons Per Hour	Farebox Recovery Ratio	Subsidy Per Patron
248,218	$288,050	$1,443,820	120,563	9,601	25.9	19.95%	$4.66	24.6	20.94%	$4.44	1,584,462	27.4	21.06%	$4.40
4,333	$5,684	$51,188	9,537	694	6.2	11.10%	$10.50	5.3	6.00%	$12.26	25,962	6.3	7.61%	$11.30
4,621	$7,818	$75,970	13,348	728	6.4	10.29%	$14.75	4.6	6.09%	$14.76	33,568	7.6	9.06%	$12.47
257,172	$301,552	$1,570,979	143,448	11,023	23.3	19.20%	$4.94	21.9	19.84%	$4.72	1,678,720	24.8	20.12%	$4.66

BEST PRACTICES

- **Provide data definitions**
- **Identify "Data Managers"**
- **Define data sources and routine processes**
- **Set performance targets**

Farebox Recovery Ratio

Passenger Revenue (inlcuding farebox, pre-paid fare media, and auxiliary revenues) divided by Operating Costs (excluding depreciation and other reconciling items).

Performance Compared to Target as of June 2011

Year-To-Date	
Actual:	32.5
Target:	>= 35.0
Score:	Fails Target

June	
Actual:	34.2
Target:	>= 35.0
Score:	Fails Target

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Agency Data Managers

Manager	Phone #	Email	Description of Duties
Virginia Alcayde	209-948-5566 ext 642	valcayde@sanjoaquinl	Finance and Payroll Data
Juliann Flores	209-948-5566 ext 609	jflores@sanjoaquinRT	Operating Statistics (Passengers, Hours, Miles, Passenger Miles)
Chris Durant	209-467-6694	cdurant@sanjoaquinR	Maintenance Data

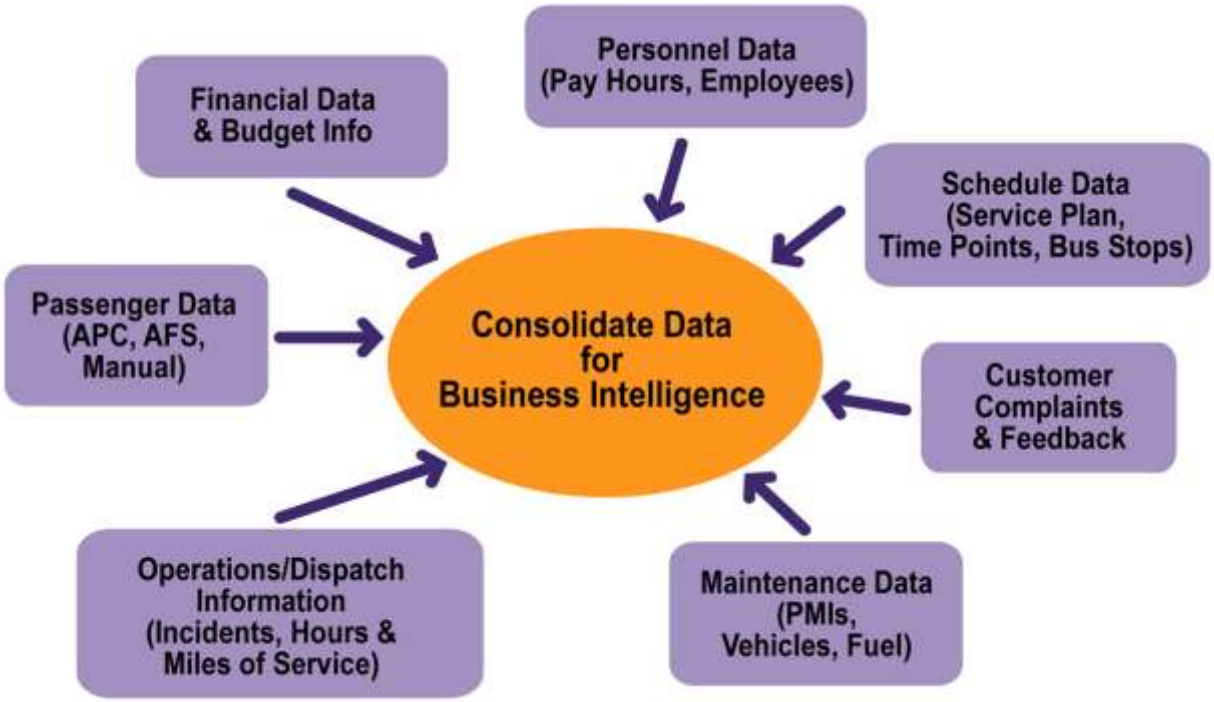
TransTrack systems

BEST PRACTICES – Define Source

Type of Service & Source Info	Hopper	Metro	BRT	Commute	DR Taxi
					
Who Collects	MV	RTD	RTD	RTD	ALC
System Used	GFI & PASS	GFI & Data Point	APC	Driver Count	ALC Prop. System
Frequency	Daily	Daily	Daily	Daily	Daily
Level of Detail	Route & Fare Type	Route & Fare Type	Route	Route	Trip & Type
Related Process	Add Route Deviations	Add Unallocated Passengers	Add Incidental Passengers	Add Seats Sold but not Used	Note Cancels & No Shows

SINGLE SOURCE/DISTRIBUTED ACCESS

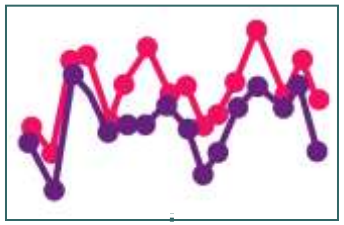
- **Get data at the source; eliminate time-consuming data reconciliations**



MANAGEMENT COMMITMENT

- **Use it and stay vigilant**
  - Routinely review data as a group
  - Use data as a budgeting and service planning tool
  - Use data to target areas for improvement

OR



Better Data. Better Decisions.

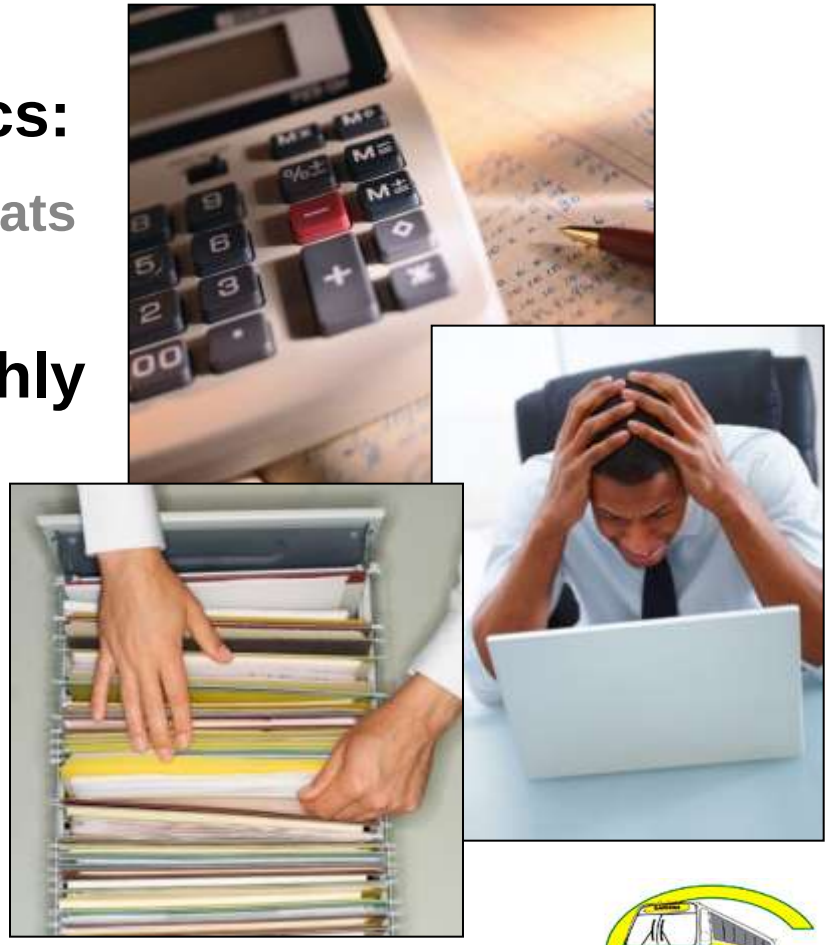
GARDENA BUS LINES

- **Municipal System in the South Bay of Los Angeles County**
- **Directly operated service with a fleet of 53 buses and 8 DR vans**
- **Data Systems**
  - Cubic fareboxes/TAP
  - City Financial System - Eden
  - Contract for service planning
  - Manual DR scheduling
  - EJ Ward for fueling
  - Plan to procure maintenance mgmt system

Gardena Municipal Bus Lines

SITUATIONAL ANALYSIS – SEPT. 2011

- **Manual day-to-day data collection for key statistics:**
  - **Run slips for payroll and stats**
  - **Operator trip sheets - DR**
- **Data rekeyed to get monthly and annual statistics**
- **Inaccurate service plan schedule**
- **Cubic ridership data not used**



Gardena Municipal Bus Lines

ACTION PLAN FOR IMPROVED DATA

- **Implement exception-based payroll and operating statistics (i.e., miles and hours of service)**
- **Utilize data and reports from the Cubic Fare Collection System**
- **Streamline and simplify the process**
- **Create Statistical Information System to organize data**

Gardena Municipal Bus Lines

SERVICE SCHEDULE

- **Review run assignment calculations for accuracy**
  - Platform, Deadhead, etc.
- **Validate scheduled miles and hours of service**
  - Foundation for exception based reporting

Gardena Municipal Bus Lines

EXCEPTION-BASED REPORTING

- **Created Excel exception-based payroll file for entry into the City Financial System**
  - **Payroll process improvements**
    - One page per day versus 80 run slips
    - Payroll position went from 40-50 hours per week to 25 hours
- **Implemented a Dispatch Log exceptions to service**
  - **Roadcalls**
  - **Accidents**
  - **Late-Pullouts**
  - **Missed Trips**

Gardena Municipal Bus Lines

UTILIZE AUTOMATED FARE SYSTEM

- **Ensure equipment is properly maintained**
  - Coin and cash counting equipment
  - Fareboxes
- **Implement revenue control procedures**
  - Reconciliation procedures
- **Use of full compliment of Cubic Reports**
  - Maintenance
  - Analytics

Gardena Municipal Bus Lines

SIMPLIFY AND STREAMLINE

- **Involved team to review current processes**
  - Flow charts and documents
  - Identified data re-keying
- **Created Statistical Information System**
  - Keep it simple
  - Data in one place
- **Focus on key data**
- **Interim steps to increased automation**

Gardena Municipal Bus Lines

STATISTICAL INFORMATION SYSTEM

- **Actual to Scheduled Performance Statistics Reporting**
  - Eliminated driver run slips
  - Repository for performance statistics for management and outside reporting
- **Additional benefits to this reporting system**
  - Daily Dispatch Activity Reporting Log
  - Same data input for Exception Based Payroll

Gardena Municipal Bus Lines

FTA USE OF NTD DATA

- **Create NTD deliverables and products**
  - Annual Apportionments
  - Transit Safety & Security Statistical Analysis
  - Conditions & Performance Report to Congress
  - Transit Profiles

- **Monthly Ridership data to measure progress relative to FTA Ridership Goal**
  - Increase ridership by 1% annually
  - Analysis of factors influencing ridership

START OF CHANGE – MAY 2000

- **FTA submitted report to Congress on new revised National Transit Database**

U.S. Department of Transportation Federal Transit Administration

- **Created FTA and Transit Industry partnership**
  - Transit Systems
  - State DOTs and MPOs
  - TRB
  - NTSB and AASTO
  - APTA and CTAA

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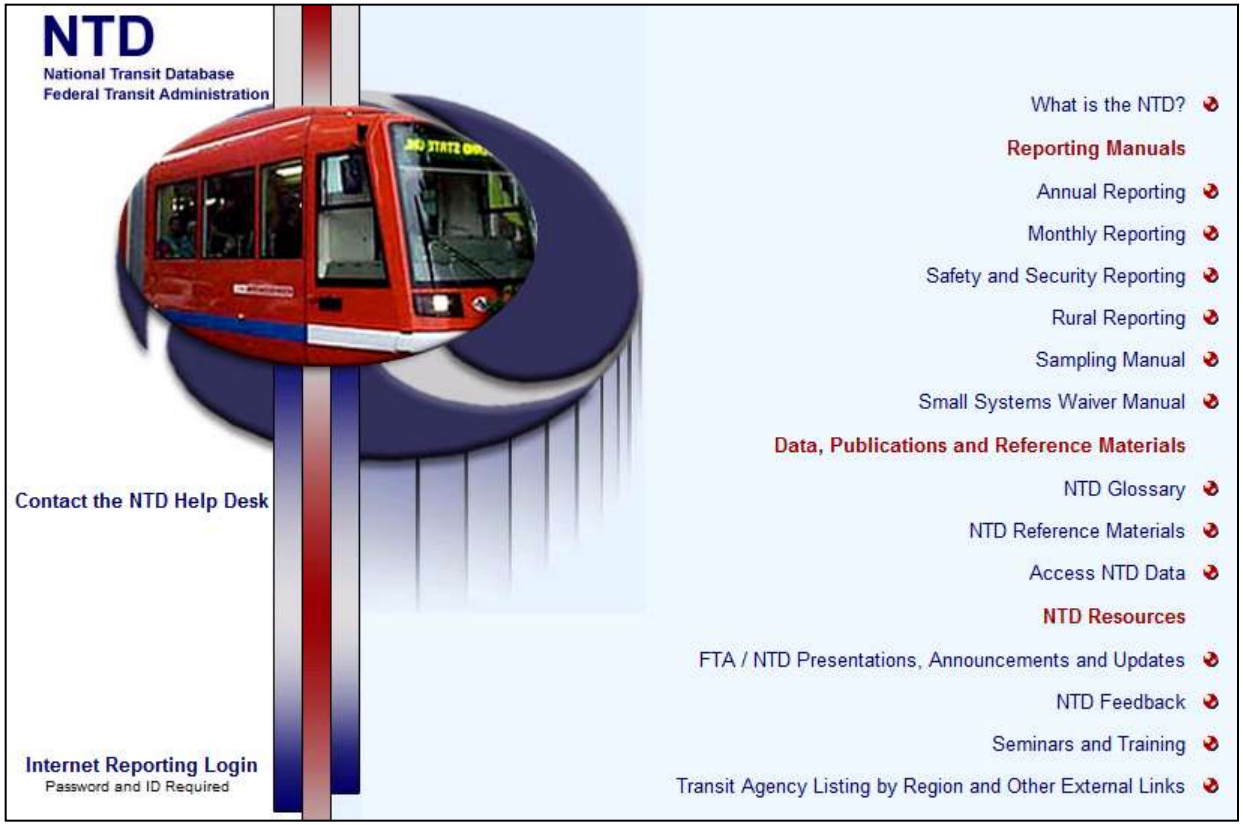
RECOMMENDATIONS – 2007

- **Use current year NTD data to support FTA Performance reporting (timeliness)**
- **Enhance NTD Safety and Security data reporting**
- **Improve internet-based reporting**
  - On-line, real-time validation (1,000 checks) built into internet-reporting
  - Designed to improve data integrity
  - Make transit data and profiles available on-line for industry use
- **Implement State-based reporting for rural transit**

NTD WEBSITE AS A RESOURCE



www.ntdprogram.gov

- **FTA/NTD Presentations, Publications and Reference Materials**
- **Access NTD Data**

ACCESS TRANSIT DATA

- **Transit data for peer reviews and profiles of other transit agencies**

Annual Transit Profiles

To search for profiles you may enter the agency's NTD ID, Agency Name, City, State, etc. For example, if you would like to find profiles for all reporting agencies in the State of California, enter California. The system will return all profiles with either the word California or the abbreviation CA in their names or addresses.

If you do not know the information for a particular agency, all agencies reporting to the NTD for the last 2 RYs and their associated profiles are also available form Transit Agency Listing by Region and Other External Links page.

Individual Profiles for All Transit Agencies in Urbanized Areas Over and Under 200,000 Population

Enter search criteria: Search

Monthly Database

The two files located in this section will be replaced with updated Monthly data on or about the 4th of each month.

Monthly Module Raw Data Release
Monthly Module Adjusted Data Release

Safety & Security Data

The two files located in this section will be replaced with updated Safety & Security data on or about the 4th of each month.

Safety & Security Time Series Data
Safety & Security Major-Only Time Series Data

NATIONAL TRENDS

San Joaquin Regional Transit District (RTD)

Purchased transportation provider(s) filing a separate report: City of Tracy (9197)

ID Number: 9012
www.sanjoaquinrtd.com
P.O. Box 201010
Stockton, CA 95201

General Manager: Ms. Donna DeMartino
(209) 948-5566

General Information

Urbanized Area (UZA) Statistics - 2000 Census

Stockton, CA	
Square Miles	74
Population	313,392
Population Ranking out of 465 UZAs	100
Other UZAs Served	

Service Area Statistics

Square Miles	1,489
Population	564,539

Service Consumption

Annual Passenger Miles	27,588,602
Annual Unlinked Trips	4,349,158
Average Weekday Unlinked Trips [2]	15,706
Average Saturday Unlinked Trips [2]	4,208
Average Sunday Unlinked Trips [2]	2,839

Service Supplied

Annual Vehicle Revenue Miles	3,626,415
Annual Vehicle Revenue Hours	247,555
Vehicles Operated in Maximum Service	124
Vehicles Available for Maximum Service	156
Base Period Requirement	86

Financial Information

Fare Revenues Earned		$4,896,975
Sources of Operating Funds Expended		
Fare Revenues	(16%)	$4,896,975
Local Funds	(56%)	$16,764,051
State Funds	(10%)	$3,007,753
Federal Assistance	(17%)	$5,220,718
Other Funds	(0%)	$128,564
Total Operating Funds Expended		$30,018,061
Sources of Capital Funds Expended		
Local Funds	(8%)	$1,301,854
State Funds	(30%)	$4,921,250
Federal Assistance	(62%)	$10,269,510
Other Funds	(0%)	$0
Total Capital Funds Expended		$16,492,614

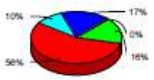
Summary Operating Expenses

Salary, Wages, Benefits	$21,970,603
Materials and Supplies	$3,129,707
Purchased Transportation	$353,756
Other Operating Expenses	$4,487,563
Total Operating Expenses	$29,941,629
Reconciling Cash Expenditures	$76,437

Vehicles Operated in Maximum Service and Uses of Capital Funds

Mode	Directly Operated	Purchased Transportation [1]	Revenue Vehicles	Systems and Guideways	Facilities and Stations	Other	Total
Bus	94	0	$5,600,601	$549,063	$8,743,637	$1,257,971	$16,151,272
Demand Response	21	1	$0	$0	$0	$341,341	$341,341
Demand Response - Taxi	0	8	$0	$0	$0	$0	$0
Total	115	9	$5,600,601	$549,063	$8,743,637	$1,599,312	$16,492,613

Sources of Operating Funds Expended



Sources of Capital Funds Expended

Modal Characteristics

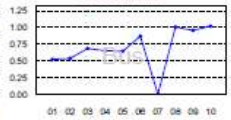
Mode	Operating Expenses [1]	Fare Revenues [1]	Uses of Capital Funds	Annual Passenger Miles	Annual Vehicle Revenue Miles	Annual Unlinked Trips	Annual Vehicle Revenue Hours	Fixed Guideway Directional Route Miles	Vehicles Available for Maximum Service	Average Fleet Age in Years	Vehicles Operated in Maximum Service	Peak to Base Ratio	Percent Spares
Bus	$27,864,844	$4,802,806	$16,151,272	27,343,204	3,376,752	4,303,166	229,946	N/A	109	7.4	94	1.00	16%
Demand Response	$1,723,640	$81,551	$341,341	186,841	181,881	34,985	15,066	N/A	39	4.1	22	N/A	77%
Demand Response - Taxi	$353,145	$12,618	$0	58,557	67,782	11,007	2,543	N/A	8	N/A	8	N/A	0%

Performance Measures

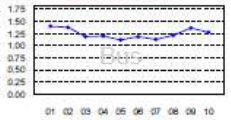
Mode	Service Efficiency: Operating Expense per Vehicle Revenue Mile	Service Efficiency: Operating Expense per Vehicle Revenue Hour	Service Effectiveness: Operating Expense per Passenger Mile	Service Effectiveness: Operating Expense per Unlinked Passenger Trip	Service Effectiveness: Unlinked Passenger Trips per Vehicle Revenue Mile	Service Effectiveness: Unlinked Passenger Trips per Vehicle Revenue Hour
Bus	$8.25	$121.18	$1.02	$6.48	1.27	18.71
Demand Response	$9.48	$114.41	$9.23	$49.27	0.19	2.32
Demand Response - Taxi	$5.21	$138.87	$6.03	$32.08	0.16	4.33

Operating Expense per Vehicle Revenue Mile

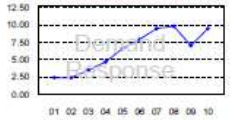
Operating Expenses per Passenger Mile



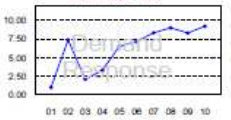
Unlinked Passenger Trips per Vehicle Revenue Mile



Operating Expense per Vehicle Revenue Mile



Operating Expenses per Passenger Mile



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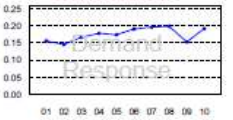

PEER REVIEWS

- **A confidential consortium of mid-sized bus agencies in North America established in 2011 to:**
  - Learn from each other by comparing performance
  - Share experiences and identify industry best practices
- **The group is administered by the Railway and Transport Strategy Centre (RTSC) at Imperial College London**
  - Visit **http://americanbusbenchmarking.org**

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MEMBER AGENCIES

- **The group convened in May 2011 in Rochester, New York to review KPIs and to begin the benchmarking process**
- **The group convenes annually (next scheduled for APTA Annual Meeting in Seattle)**

"The benchmarking work will help agencies understand their strengths and weaknesses and where there is room for performance improvement, allowing a strategic prioritization of efforts," said Mark Trompet, RTSC senior research associate. "The ultimate outgrowth of our work will be improved efficiencies and cost savings."

Capital Metropolitan Transportation Authority (Capital Metro, Austin)

Greater Cleveland Regional Transit Authority (GCRTA, Cleveland)

Greater Dayton Regional Transit Authority (RTA, Dayton)

Des Moines Area Regional Transit Authority (DART, Des Moines)

Lane Transit District (LTD, Eugene)

Fort Worth Transportation Authority (The T, Fort Worth)

Rhode Island Public Transit Authority (RIPTA, Providence)

Rochester Genesee Regional Transportation Authority (RGRTA, Rochester)

Pinellas Suncoast Transit Authority (PSTA, St. Petersburg)

Omnitrans (San Bernardino)

San Joaquin Regional Transit District (RTD, Stockton)

Utah Transit Authority (UTA, Salt Lake City)

Clark County Public Transportation Benefit Area (C-TRAN, Vancouver)

PERFORMANCE INDICATORS

- **Growth & Learning**
  - Passengers, Miles, Hours
  - Productivity
  - Staff Training
- **Customer**
  - Service Availability
  - On-Time Performance
- **Internal Processes**
  - Peak Fleet Utilization
  - Staff Productivity
  - Absenteeism
  - Distance Between Roadcalls
  - Lost Vehicle Miles
- **Financial**
  - Total Cost Per Unit of Service
  - Operating Cost Recovery
  - Average Fare
- **Safety & Security**
  - Accidents Per Unit of Service
  - Lost Time & Staff Injuries Per Staff Work Hour
  - Passenger Injuries Per Service Consumed
- **Environmental**
  - Fuel Consumption & Emissions

SJRTD EXPERIENCE

- **Pay attention to definitions – they are important**
  - NTD Definition or Other (e.g., Revenue Hour with or without recovery)
  - New Data Items (e.g., Absenteeism, Staff Work Hour, Schedule Adherence)
- **Requirements for a valid peer comparison**
  - Accurate data
  - Timely reporting
  - Consistent data definition