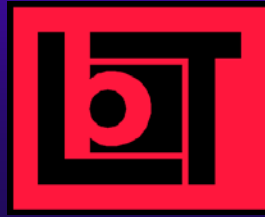# Long Beach Transit
Comprehensive Facility Master Plan

The Challenges with

Key Performance Indicators in Business Application Software

LBT Mission

Long Beach Transit is in business to provide public transportation services that enhance and improve the quality of life for the people in our community.
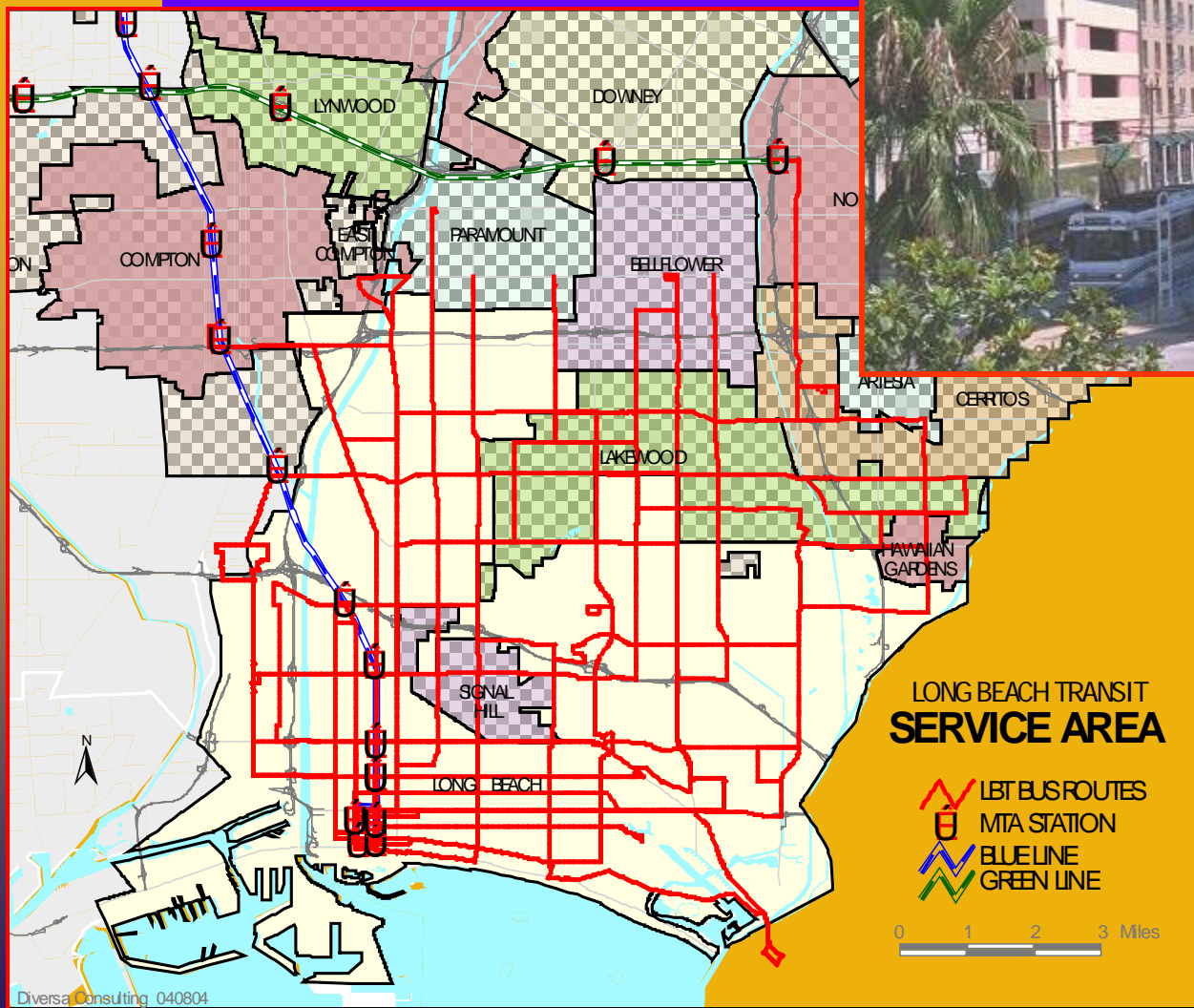
Service for Greater Long Beach

- ◆ We serve Long Beach, along with 11 other cities – 98 square miles with over 1,000,000 people in our service area
- ◆ Over 89,000 passengers a day – amounting to over 29 million passengers a year
- ◆ We provide the following services:
  - Fixed route service
  - Free Shuttle service (the Passport)
  - Demand responsive paratransit (Dial-a-lift)
  - Water Taxi service (AquaBus & AquaLink)
  - Community special services (Museum express)

LBT Service Area

LONG BEACH TRANSIT
SERVICE AREA

LBT BUS ROUTES
MTA STATION
BLUE LINE
GREEN LINE

0   1   2   3 Miles

LYNWOOD

DOWNEY

NO

COMPTON

EAST COMPTON

PARAMOUNT

BELLFLOWER

ARTESIA

CERRITOS

LAKEWOOD

HAWAIIAN GARDENS

SIGNAL HILL

LONG BEACH

N

Diversa Consulting 040804

Fleet Makeup

- ◆ Revenue Fleet
  - 179 40' New Flyer buses (64 electric hybrid)
  - 25 – 43' New Flyer electric hybrids (total 89)
  - 13 – 60' New Flyer articulated buses
  - 30 opus – 30' Passports
  - *64 CNG – 40' Gillig BRT (on order)*
- ◆ Other Services
  - 17 Dial-A-Lift vans (Paratransit)
  - 3 boats (2 AquaBus & 1 AquaLink)
  - 1 Charter (Prevost)
- ◆ Support Vehicles
  - 31 service veh for supervisor, staff & operators
  - 25 maintenance service vehicles
- ◆ TOTAL of 324 VEHICLES

LBT Fleet – more than buses

Facilities

- ◆ Have two major operation facilities
  - – Anaheim - 8 acres & 4 buildings
  - – LJ - 10 acres & 3 buildings
  - – CNG Station being built at LJ in 2012
  - – New Fast Charge in 2013
- ◆ Have Center / Transit mall
  - – Downtown - 3 blocks with rail
  - – New Visitor Information Center
- ◆ Close to 3,000 stops
  - – Real time information at over 200 stops
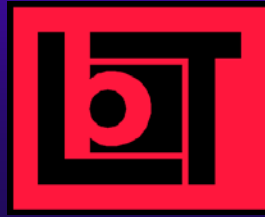 - – Artwork / Sustainable stops with solar panels

Facilities – More Than Buildings

Long Beach Transit

Asset Management Strategy

FTA – State of Good Repair

- ◆ Asset Management is the
  - – *strategic and systematic process*
  - – *through which an organization procures, installs, operates, maintains, rehabilitates, and replaces transit assets*
  - – *to manage their performance, risks, and costs over their life cycle*
  - – *to provide cost-effective, reliable, and safe service to current and future customers*
- ◆ This is all Assets – not just fleet
  - – As a transit agency have a detailed fleet plan

LBT's State of Good Repair

- ◆ Asset Management Philosophy
  - – Fleet, Facilities, Right of Way, Support Systems (Power, Safety, IT, Furniture etc..)
  - – LBT prioritizes in that order
  - – LBT maintains assets in a "like new" condition
- ◆ SGR Grant to upgrade our Business Application Software – Ventyx - Ellipse 8
  - – Comprehensive Facility Master Plan (CFMP)
  - – PAS55 compliant software
- ◆ LBT's goal is to build an asset strategy & incorporate into the upgrade

Comprehensive Facility Master Plan

- ◆ Right of Way / Stops & Zones
  - – Vigil Solutions is creating an app to validate inventory & do a condition assessment
  - – Will create an ADA, landscape & Art plan
- ◆ Facility
  - – Hired Jorgensen Associates to validate facility assets, maintenance & capital plan
  - – Will do a baseline condition assessment and establish KPI's
- ◆ Coordinating both efforts this summer & prepare for go-live in Nov 2012

CFMP Project Requirements

- ♦ Asset Inventory / Condition Assessment
  - – Reorganize hierarchy/naming convention
  - – Criticality defined
  - – Deficiency report
- ♦ Annual Maintenance plan – 52 weeks
  - – Compare to manpower/contract labor
  - – Bring CAD drawings online – linking equip
  - – Manuals and inventory online
- ♦ Capital Plan Forecasting
- ♦ Energy study to fold into sustainability

Long Beach Transit

Facility Performance Indicators within Ellipse 8
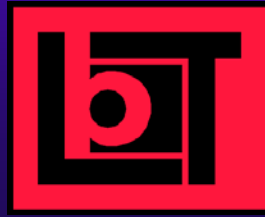
LBT Upgrading Software

- ♦ Applied and received a SGR grant to upgrade Ellipse to 8.0
  - – Asset Management Software oriented towards Rolling Stock
  - – PAS55 Compliant for all Assets
  - – Opportunity to bring in missing elements for Facilities and Stops & Zones
- ♦ Specific Funding for Facilities
  - – Need to validate facility inventory & ensure we have good maintenance system
  - – Need to add capital rehab/replacement plan and a conditional assessment

PAS55 Elements

- Know your Asset – Equipment Register
  - Inventory (asset info, hierarchy, install date, useful life, replacement value)
  - Criticality / Condition Assessment recorded
  - Engineering drawings, vendor data & asset related documents readily available
- Maintenance Scheduling / Performance
  - Preventative & Responsive Maintenance
  - Work Instructions on standard jobs
  - Non-Compliance
- Capital Replacement Strategy
- Reporting & Analysis to Key Indicators

Business Application Software

- Traditional Systems allow for equipment / asset setup, workorders and PM's
- Facility based systems will go beyond and put CAD drawings, manuals, inventory at your fingertips
- Recording the rest of your activities – especially reactive / emergency maintenance becomes the issue
  - KPI's not possible without good data.
  - Strategic Planning & Capital replacement not possible
  - Who is going to do?

Learning from Performance Improvement

Management Led Performance Improvement

i.e.
Innovation and Incremental Improvement in Process, Products and Services

Will Require →

Behavioral Change

i.e.
Changing
What we do
and
How we do it

Will Require →

Learning

i.e.
Acquiring and Developing new Knowledge Attitudes and Skills

Source: Buckler, 1998

Key Performance Indicators

♦ Financial and non-financial measure used to help measure progress towards a stated organizational goal or objective.

♦ KPI's should
  – Have a clear purpose – an end in mind
  – Systematic and part of your normal collection process
  – Need to be team goals / must own
  – Easy to collect, review & understand

♦ The most effective KPI's are dashboards – if you measure it – it will get done.

Optimize Equipment Life

- ♦ Facility Condition Index
  - – Deficiency over replacement value
  - – Maintenance costs over replacement value
- ♦ Equipment Condition Assessment
  - – 100% of assessments done annually
  - – Maintain a 2.5 or higher on 100% of all assets deemed critical
- ♦ Equipment Replacement
  - – 100% of critical equipment replaced within its useful life as dictated by plan
  - – 100% Projects completed on budget/time

Optimize Maintenance Resources

♦ Maintenance Performance
  – Backlog of Maintenance – Amt of ready work / hrs of weekly crew capacity < 2 wks
  – % of planned/proactive vs total work > 70%
  – Ratio of actual # of WO's completed by the number of WO's on weekly schedule
  – Workorder aging (>10% over 30 days)
  – Traditional Financial Performance measures

♦ Customer Satisfaction
  – Customer Response – 100% of standard
  – Customer Survey – 85% good / excellent

Optimize Energy / Resources

♦ Resource Use

– Electricity - annual reduction of 2% kwh

– Natural Gas – annual reduction of 3%

– Water – annual reduction of 4%

– Recycling – increase by 10% each year

♦ Energy Plan

– Equipment replacement evaluations done 100% of the time when replaced

– Complete energy projects as proposed by the employee green team (expanding with ASHRAE Audit)

Final Thoughts

- ◆ KPI's must be set to meet your own organizational goals
  - – You need to know your problems
  - – Develop a team strategy of what you want
  - – Bring outside perspective
- ◆ KPI's – have to have benchmarks
  - – Compare against your past with goals
  - – Compare against the industry – need a standard definition and period to make sense.
- ◆ If the KPI is not easy and quick then it is no good.

Questions And Answers