Business Intelligence Solution
Background

- Business Intelligence refers to software that integrates and presents data from multiple sources to create insightful information.

Operations
Caltrain
Paratransit
Finance/HR

BI Platform

Continuity
Consolidation
Control
Compliance
Collaboration
BI Benefits

1. Easy access to information
2. Develop key performance indicators and create dashboards that influence timely/specific actions
3. Better insights and analysis
4. More accurate planning
5. Improve decisions
New systems will be added in the future; electric bus and train telematics, TAM, and others
*Platform designed for performance and scalability
Analytics and Reporting

Value

- PREDICTIVE & PERSSCRIPTIVE
  - OPTIMIZATION
    - What's the best that can happen?
  - PREDICTIVE MODELING/FORECAST
    - What will happen next?
- RANDOMIZED TESTING
  - What if we do this?
- STATISTICAL ANALYSIS
  - Why is this happening?
- QUERY/DRILL DOWN
  - What exactly is happening?
- AD HOC REPORTS
  - How many, how often, where?
- STANDARD REPORTS
  - What happened?

Complexity
Dashboard Sample - I

Executive Dashboard

**On-Time Performance**
- Feb 12th 6.41% vs previous day
- Source: SamTrans

**Ridership**
- Jan 2019 5.08% vs Jan 2018
- Source: Tri-Delta

**Total Net Position**
- 2018 14.24% vs 2017
- Source: SamTrans

**Total Operating Expenses**
- 2018 5.26% vs 2017
- Source: SamTrans

**Clipper Fare Revenue**
- Jan 2019 0% vs Jan 2018
- Source: SamTrans

**Average Verified Complaints**
- Jan 2019 15.09% vs Jan 2018
- Source: Sample
Dashboard Sample - II (with Predictions)

Executive Dashboard

Projections

- **On-Time Performance**
  - Avg. On Time Percentage
  - Source: SamTrans

- **Ridership**
  - Ridership
  - Source: Tri-Delta/GFI

- **Total Net Position**
  - Total Net Position in (100s)
  - Source: SamTrans

- **Total Operating Expenses**
  - Total Operating Expenses in (000s)
  - Source: SamTrans

- **Clipper Fare Revenue**
  - Source: SamTrans

Confidence Interval = .95

Actual

Estimate
Dashboard Sample - III

Operational Dashboard

June 2017 Performance vs Goal

- **Actual Revenue Hours**: Goal >= 12,000
  - Total Fixed Route - 7 Days
  - 12,623

- **On-Time Performance (%)**: Goal >= 80
  - Fixed Route
  - 85.70%

- **Total Passengers**: Goal >= 185,000
  - Total Fixed Route - 7 Days
  - 182,524

- **Deadhead Miles**: Goal <= 25,000
  - Fixed Route
  - 28,433

- **Avg Miles between accidents**: Goal >= 130,000
  - 215,324

- **Avg Passenger/Actual Rev Hr**: Goal >= 16
  - Fixed Route
  - 14.50
Dashboard Sample - IV

Financial Dashboard

- **Total Non-Operating Revenue/expenses**: $142,206
  - 6.75% increase

- **Total Current Assets**: $165,927
  - 5.04% decrease

- **Total Capital Assets**: $307,560
  - 3.64% increase

- **Total Liabilities**: $404,968
  - 0.53% increase

- **Total Current Liabilities**: $61,760
  - 24.10% decrease

Click inside the circle to see the yearly trend and split by sub-categories.

**Total Non-Operating Revenues/expenses**

Total broken down by sub-categories.

- Caltrain service subsidy
- Interest expense
- Investment income
- Operating assistance
- Other income, net

**Total Non-Operating Revenues/expenses**

Yearly Trend

Amount ($): [Graph]

Amount (%): [Graph]
Summary

• The BI solution is a powerful tool to compile and process raw data from multiple sources to create visual representations to inform better business decisions

• Enable staff to better predict outcomes of investments and capital programs

• It will help measure performance against goals, improve efficiency and effectiveness, and develop strategy
Next steps

• The estimated timeline for implementation is about 6 months
• Following implementation there is a 3 month warranty period
• Staff is recommending the board approve awarding the contract for the BI solution to TransSight