

Regional Monorail Exploratory Study

Meeting of Project Steering Committee

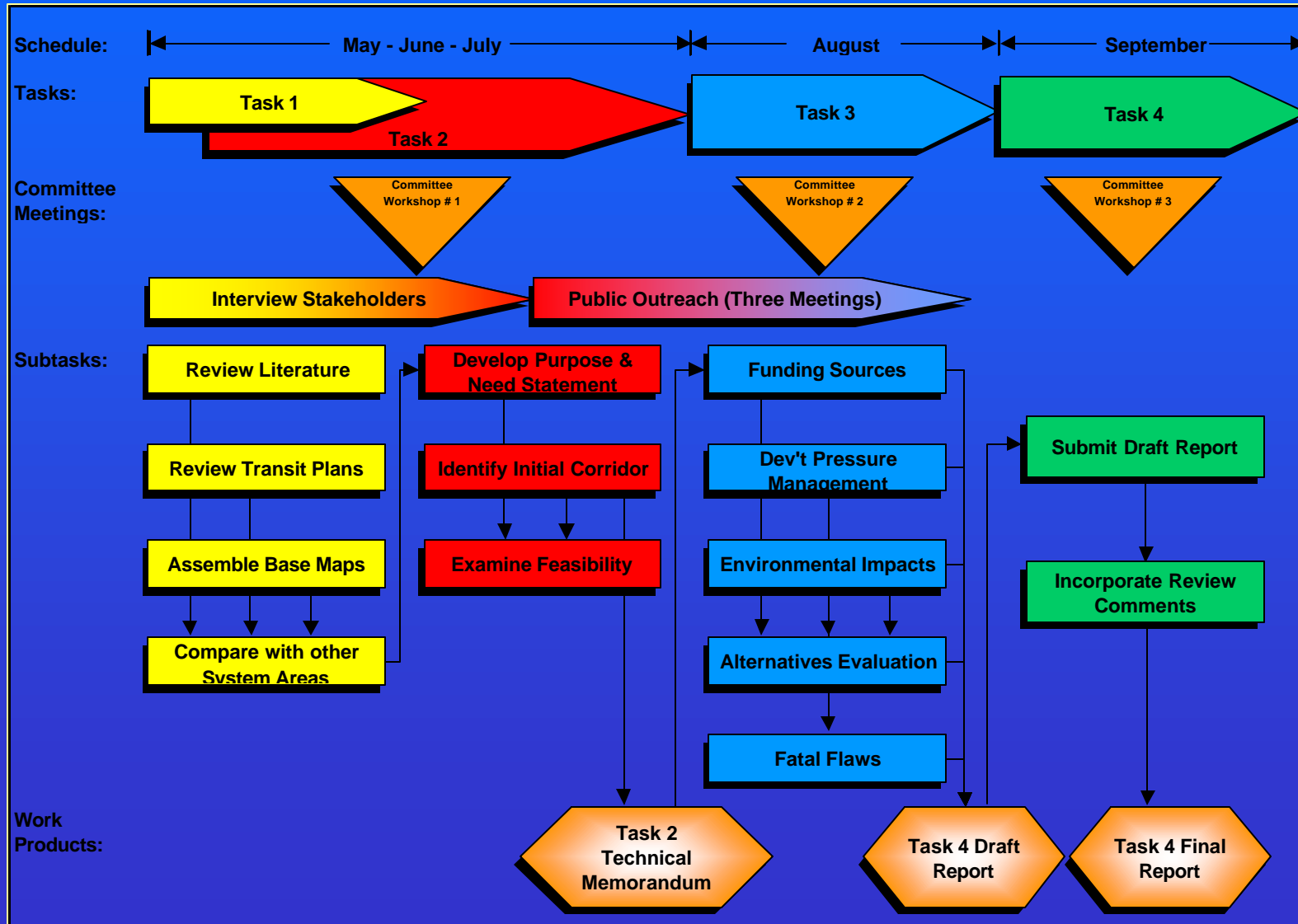
WILMINGTON AREA PLANNING COUNCIL



June 24, 2002

Project Duration

May - September 2002



Purpose and Needs Statement

- Identifies the problems the project will address
- Creates the framework for evaluating the solutions

Principal Issues

- Anticipated travel demand
- Capacity deficiencies in existing system
- Relationship to regional transportation system
- Social & economic development needs

FTA Criteria

- Mobility - travel time savings & service to additional and specialized markets
- Environmental quality - air quality, noise, & energy
- Operating efficiencies - cost per unit of travel
- Cost effectiveness - cost per incremental passenger
- Land use - transit supportive policies & patterns

Issues for Monorail Planning

- **Las Vegas**
- **Seattle**
- **Jacksonville**
- **Vancouver**

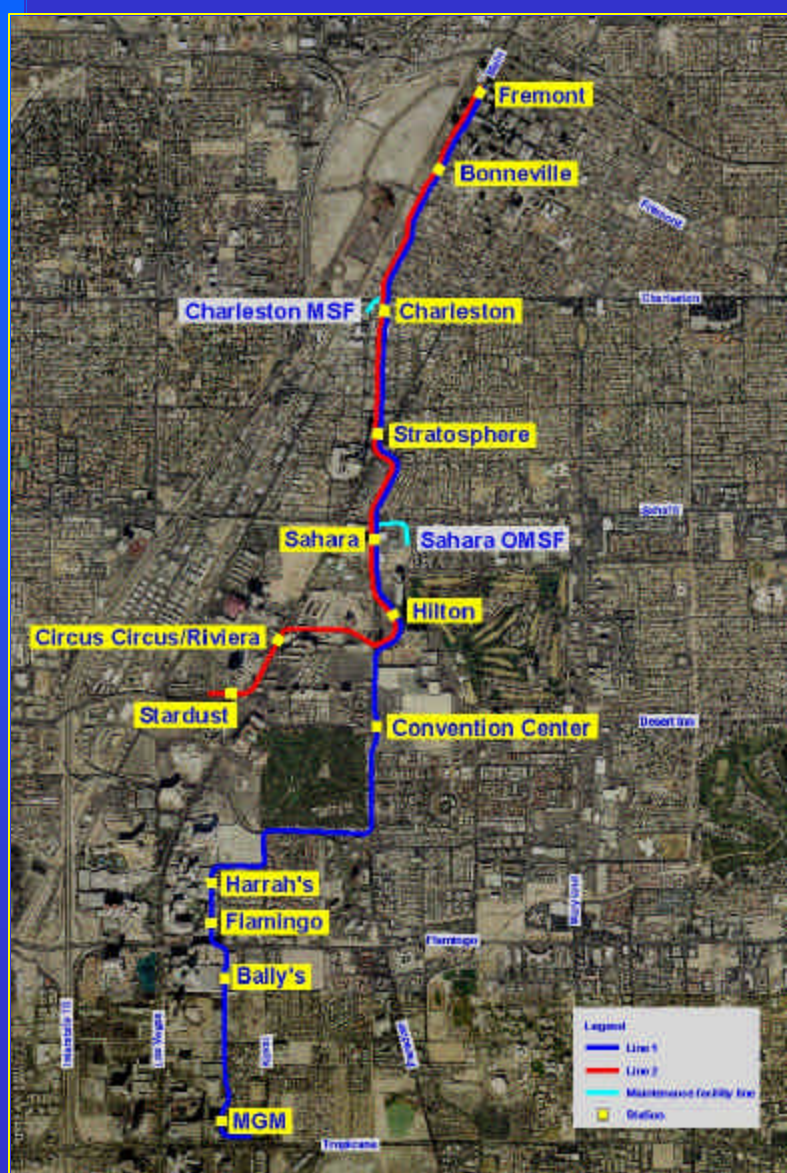
Existing Las Vegas Monorail



Proposed Las Vegas Monorail



Las Vegas Monorail



Las Vegas Monorail

Current Characteristics

Population (2006 Est.)	1.6 m
Fare Collection	Free
Daily Ridership	70,000 (estimated)



System Development

CHARACTERISTIC	INITIAL	PHASE 1	PHASE 2
Technology	Bombardier Mark IV	Bombardier M-VI	Bombardier M-VI
Alignment	Shuttle	Pinched Loop	Pinched Loop
Opening Date	June 1995	January 2003	July 2006
Peak-Hour Capacity (pphpd)	1,900	3,360	3,360
Intermodal Connection(s)	Bus	Bus	Bus
Dual-Lane Miles (Cumulative)	0.7 mile	3.6 miles	6.8 miles
Number of Stations (Cumulative)	2	8	13

Existing Seattle Monorail



Possible Seattle Corridors



Seattle Monorail Alternative Technologies

Alternative Technologies

ALWEG

Seattle, WA / 2 8-Car Trains / 1982

CAPACITY (4-CAR TRAIN)

Seated	125
Standing	243
Total	368

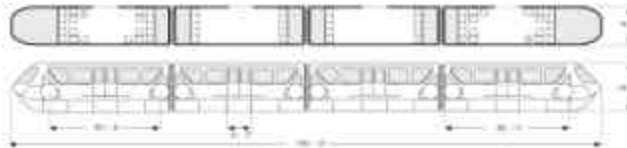


BOMBARDIER M-VI

Las Vegas, NV / 4-Car Train / 2004

CAPACITY (4-CAR TRAIN)

Seated	81
Standing (2.7 m/s²)	140
Total	221



HITACHI SERIES 1000

Naka, Iwano, Japan / 13.2-Car Train / 2002
 Tokyo, Japan / 10.4-Car Train / 1999
 Osaka, Japan / 11.4-Car Train / 1999
 Nite, Kyoto, Japan / 10.8-Car Train / 1999

CAPACITY (12-CAR TRAIN)

Seated	85
Standing (2.7 m/s²)	151
Total	236



HITACHI SERIES 2000

Tokyo, Japan / 19.8-Car Train / 1999 / 1998

CAPACITY (12-CAR TRAIN)

Seated	111
Standing (2.7 m/s²)	245
Total	356

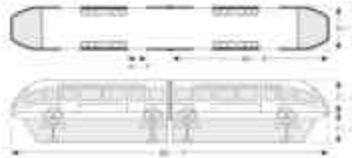


MONORAIL MALAYSIA

Kuala Lumpur, Malaysia / 2 Trains / 2002

CAPACITY (2-CAR TRAIN)

Seated	24
Standing (2.7 m/s²)	114
Total	138



Seattle Monorail

Current Characteristics

Population (2006 Est.)	.6 m
Fare Collection	\$2.50 Adult; \$1.00 Youth
Daily Ridership	Estimated Year 2020 for Green Line Only is between 54,000 and 67,000



System Development

CHARACTERISTIC	INITIAL	PHASE 1	Additional Phases
Technology	Alweg	Several Alternatives	Several Alternatives
Alignment	Shuttle	Green Line	Four additional lines
Opening Date	March 1962	Year 2020 Demand	N/A
Peak Capacity (pphpd)	4,800	3,000	3,000
Intermodal Connection(s)	Bus	Bus	Bus
Dual-Lane Miles (Cumulative)	1.2 mile	14 miles	58.6 miles
Number of Stations (Cumulative)	2	19	TBD

Jacksonville Monorail



Jacksonville Monorail



Jacksonville Monorail

Current Characteristics

Population (2000)	735,000
Fare Collection	35 cents
Daily Ridership	2,300



System Development

CHARACTERISTIC	INITIAL	EXTENSION 1	EXTENSION 2
Technology	MATRA	Bombardier UM III	Bombardier UM III
Alignment	Double Shuttle	Pinched Loop	Pinched Loop
Opening Date	May 1989	December 1992	November 2000
Peak Capacity (pphpd)	2,100	N/A	3,600
Intermodal Connection(s)	Bus	Bus, FCCJ intermodal station	Bus, Park N' Ride King Avenue intermodal station
Dual-Lane Miles (Cumulative)	0.7 mile	1.3 miles	2.5 miles
Number of Stations (Cumulative)	3	5	8

Vancouver SkyTrain



Vancouver SkyTrain



Vancouver SkyTrain

Current Characteristics

Population	2.0 m
Fare Collection	\$2-4 Zone Based
Annual Ridership (1998)	24.1 m



System Development

CHARACTERISTIC	EXPO LINE	EXPO EXTENSIONS	MILLENIUM LINE
Technology	Bombardier MK I	Bombardier MK I	Bombardier MK II
Alignment	Pinched Loop	Pinched Loop	Pinched Loop
Opening Date	January 1986	1990-1994	Jan-August 2002
Peak Capacity	15,600	15,600	18,720
Intermodal Connection(s)	Bus, Ferry	Bus, Ferry	Bus, Ferry
Dual-Lane Miles (Cumulative)	13.3	17.8	33.5
Number of Stations (Cumulative)	15	20	33

Discussion

- **Goals**
- **Technology**
- **Community Concerns**
- **Alignment/Land Use**
- **Funding**