SWANSTON TRANSIT STATION AREA SUPPLEMENTAL REPORT

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Prepared for

Point West Transportation Management Association
City of Sacramento
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by

CRITERION
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Station area (1997)

This report augments the TMA's August 2000 study of the Swanston rail station area by addressing two current issues that have notable implications for the area:

- Siting of the eastern access routes to the USAA-rail station pedestrian overcrossing.
- Possible relocation of the Arden/Del Paso bus transfer facility to the Swanston rail station.

Criterion was tasked to examine these two issues in relation to last year's study using the Sacramento INDEX software and a May 3, 2001 workshop attended by approximately 30 stakeholders.

Dixieanne Ave. entry to Swanston station

RT is ready to prepare the final design of the pedestrian overcrossing between the Swanston station and USAA. This overcrossing will significantly improve access to the rail station for the 5,000 workers in the station catchment area east of the tracks.

In order to proceed with final design, stakeholders must make final decisions about where the overcrossing will be located, particularly where the eastside access route to the bridge will be located. To help site the eastside access route, INDEX was used to measure five alternatives as shown on the following three pages. The alternatives are based on two routes that were examined in the August 2000 study (USAA mid-campus and Silica Avenue), and a new third route around the southern edge of the USAA property to the intersection of Harvard Street and Arden Way.

The results shown on the right indicate that a dual route through the USAA campus and to Silica Avenue produces the shortest distance of 2,305 ft.

Alternative Eastside Walkway Locations	Average Walking Distance (ft) [a]
- USAA mid-campus and Silica	2,305
- USAA mid-campus only	2,382
- USAA south boundary and Silica	2,418
- USAA south boundary only	2,604
- Silica only	3,089

a) Average walk distance from rail station to all eastside businesses weighted by number of employees.

Walkway through USAA

Average walk distance: 2382 ft. (see legend on page 5)

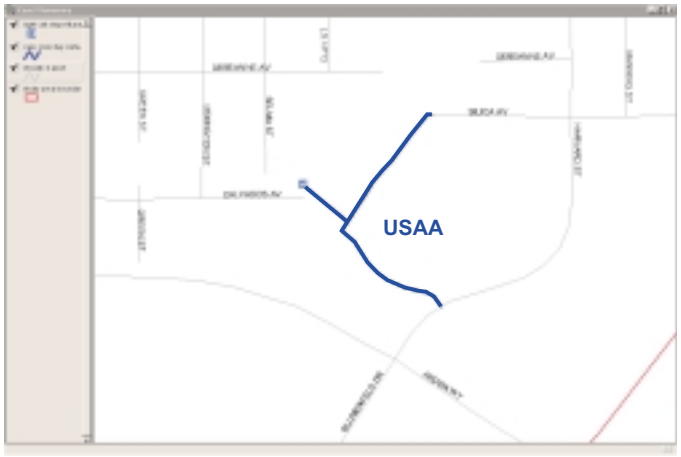
Walkway to Silica

Average walk distance: 3089 ft.

Walkway around USAA southern property line

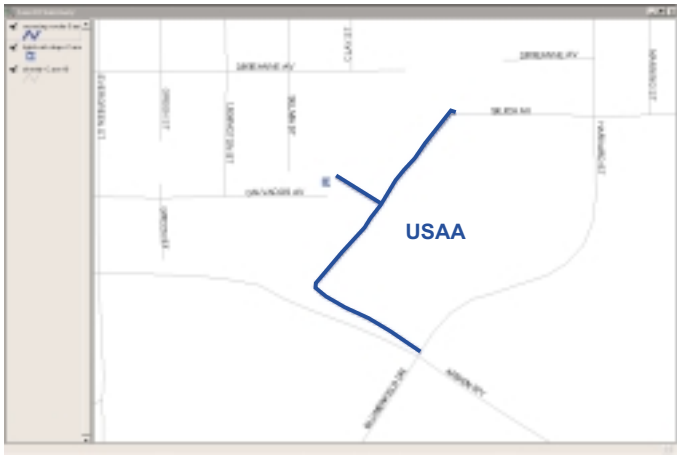
Average walk distance: 2604 ft.

Walkways through USAA and to Silica

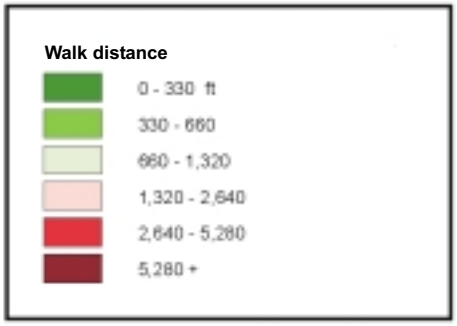


Average walk distance: 2305 ft.

Walkways around USAA and to Silica



Average walk distance: 2418 ft.



As part of its Northeast Corridor study, RT is considering relocation of the Arden/Del Paso bus transfer facility to the Swanston station. RT and its consultants have developed three preliminary bus transfer alternatives for the Swanston station as shown on pages 7-9. These alternatives envision up to 11 bus routes using Calvados and Dixieanne for access to and from Arden Way. Of the Swanston station's total 5.5 acres, these concepts would allocate approximately 65% of the site to the bus transfer facility and associated passenger platforms, and 35% to parking. RT is in the process of reviewing these alternatives in greater detail, including impacts to the ingress/egress streets and surrounding neighborhood.

The preliminary RT designs use all of RT's property at the Swanston station for transit and parking, leaving no opportunity for joint use such as the "transit village" proposed in the TMA's August 2000 Swanston study. Because of the neighborhood and transit benefits that such a mixed-use activity center might create, the village concept has been modified in this study to integrate a smaller village with a bus transfer facility.

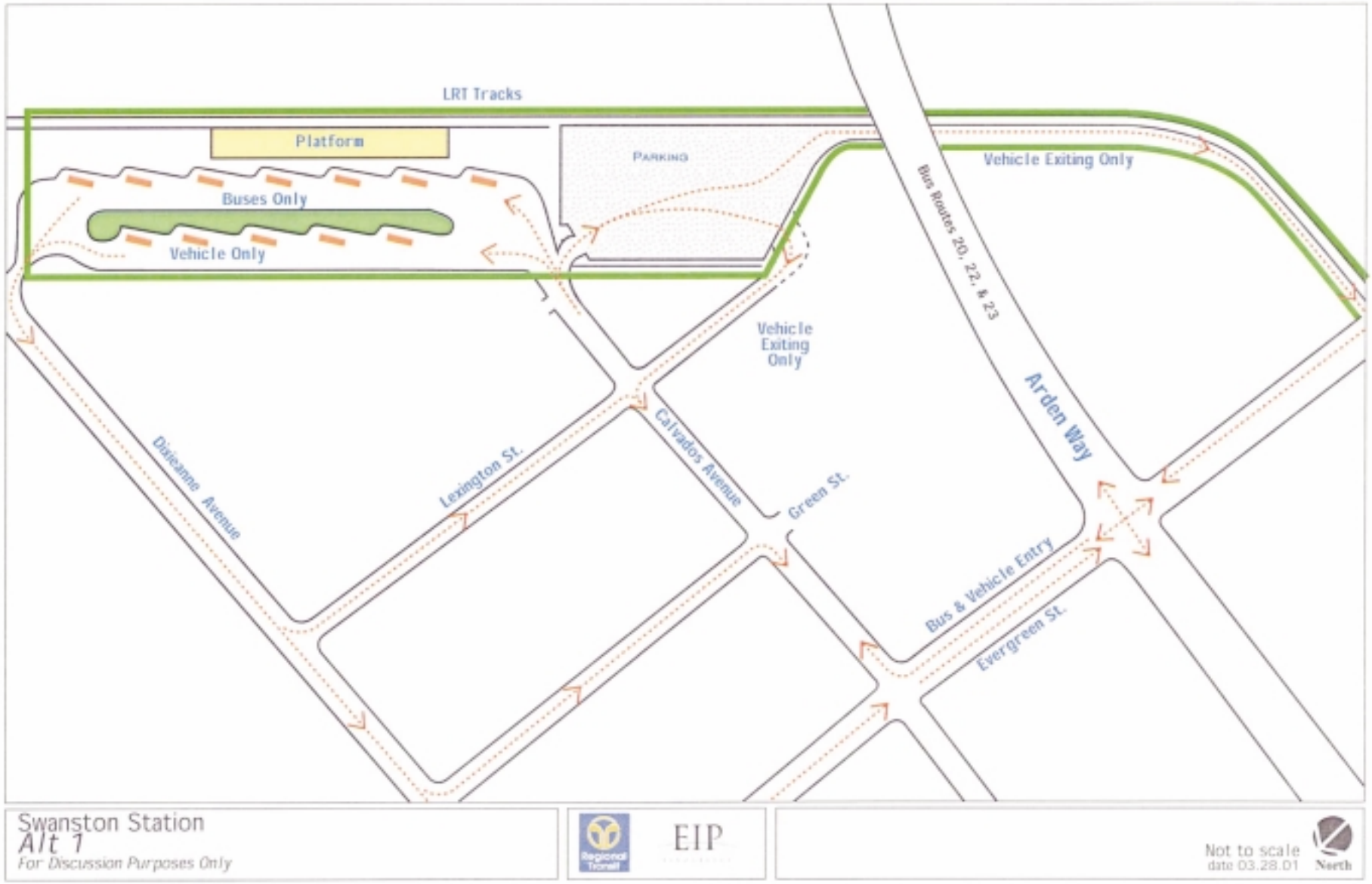
The modified concept is shown on page 10. It allocates approximately 50% of the area to mixed commercial and residential uses, 33% to a bus transfer facility, and 16% to parking.

The reduced amount of parking is consistent with RT's design guidelines for urban stations where "little or no parking" should be provided (*RT Design Guidelines for Bus and Light Rail Facilities, undated*).

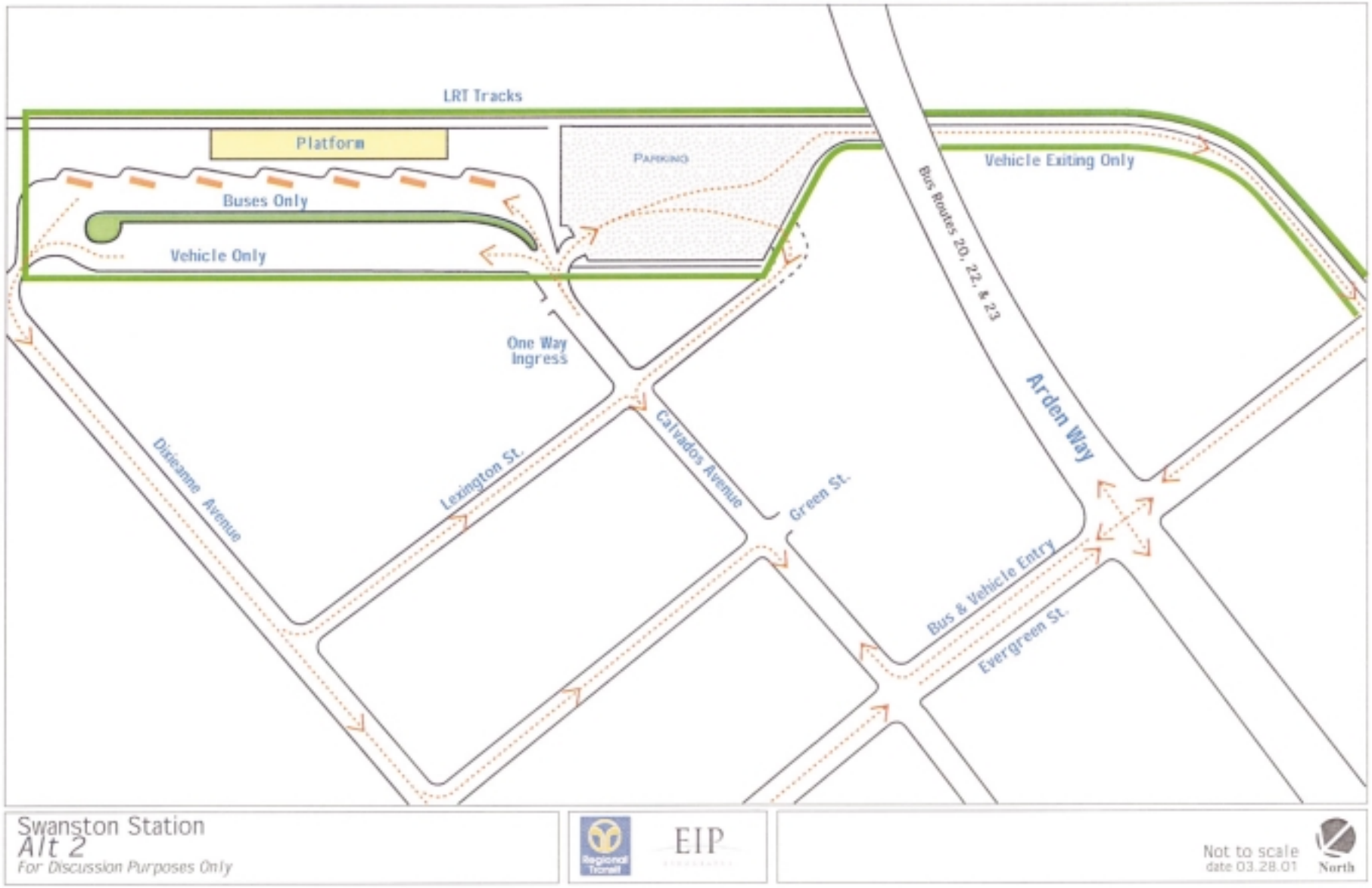
The bus transfer facility contains parallel berths for eight buses using RT's recommended dimensions. This would be enough capacity to handle up to six bus routes with extra space for bus layovers. These capacities could be increased if the parallel berth design is changed to a sawtooth design.

The smaller village should be capable of containing the same mixed-uses proposed in the August 2000 study, but at roughly half the square footages originally estimated. It should be emphasized, however, that the village's feasibility must still be determined by a real estate market study before it can be considered a definitive possibility for the station.

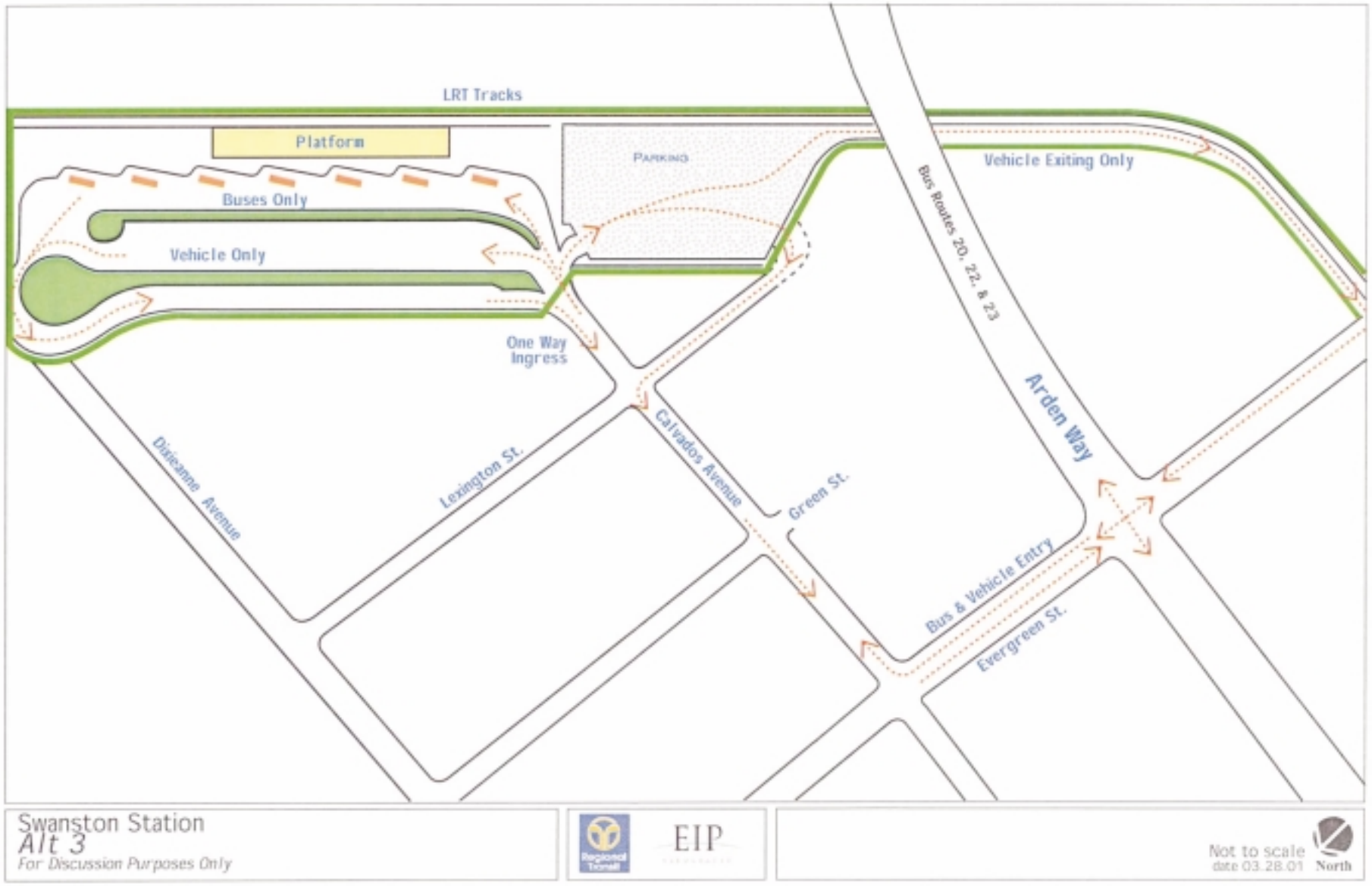
RT Alternative 1 - Bus Transfer Design for Swanston (11 bus routes)



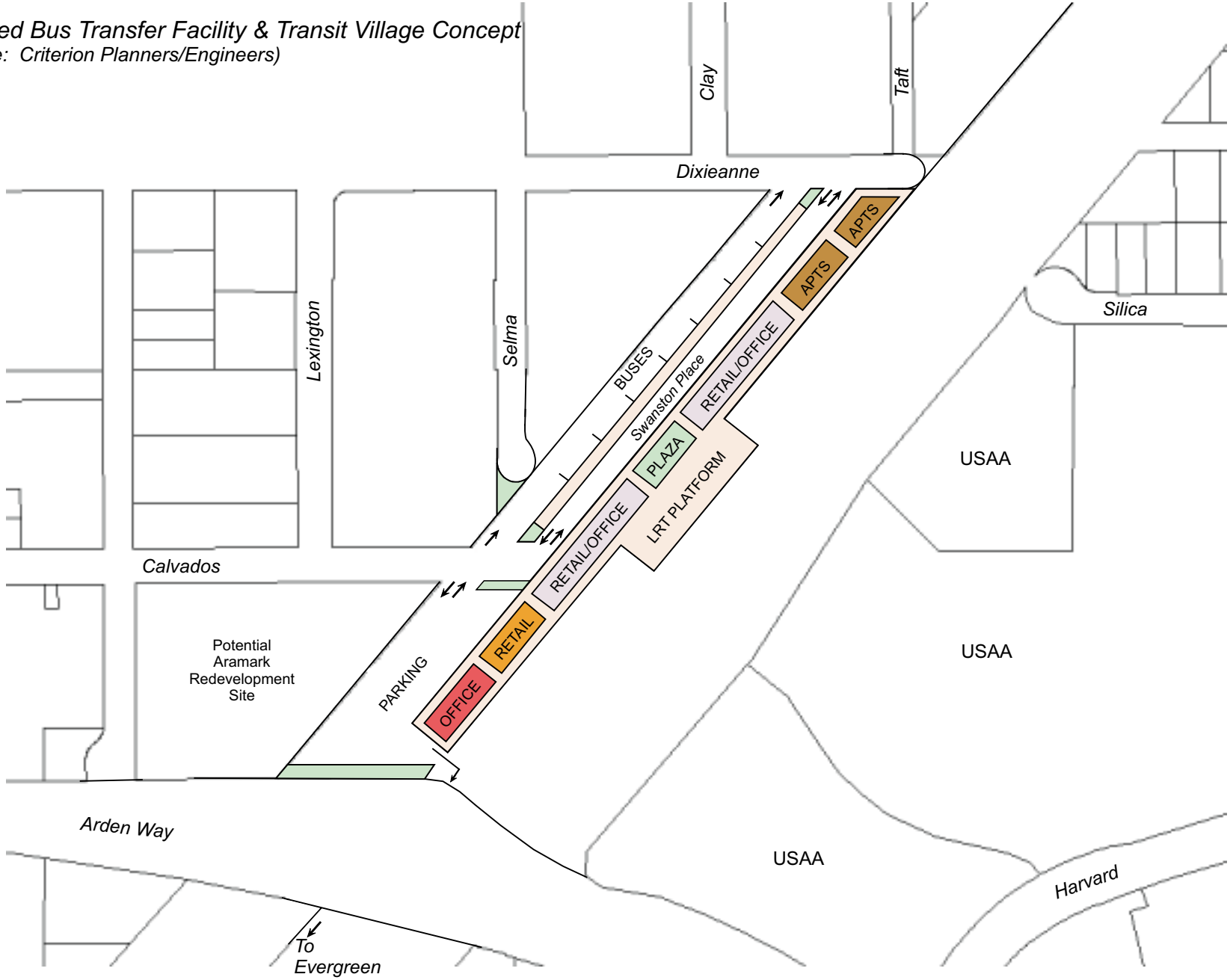
RT Alternative 2 - Bus Transfer Design for Swanston (7 bus routes)



RT Alternative 3 - Bus Transfer Design for Swanston (7 bus routes)



Modified Bus Transfer Facility & Transit Village Concept
(Source: Criterion Planners/Engineers)



To assess a bus transfer facility in relation to the August 2000 Swanston study, the INDEX software has been used to evaluate all August 2000 scenarios along with the new bus transfer concepts shown on the previous pages. These are summarized as follows:

Case	Description
Base	Existing conditions
A	Overcrossing and neighborhood circulation improvements
B	Case A plus original transit village
C	Case B plus additional neighborhood build-out and improvements
D	Overcrossing with bus transfer station
E	Case A with bus transfer station
F	Case A with modified village and bus transfer station

These cases were evaluated in INDEX using the following three steps:

1. Indicator scores were calculated for each case as shown in Table 1.

2. Using stakeholder workshop input, weights of importance were assigned to indicators and acceptability ratings were assigned to indicator scores as shown in Table 2.

3. Using the Table 2 rating and weighting factors, the cases were ranked in order of their relative merit on a zero-to-one hundred scale. These results are shown on page 14.

The highest ranked case is from the August 2000 study and includes a complete package of all features suggested in that study.

The bus transfer facility scores favorably (third highest) when combined with a modified village. When coupled only with the overcrossing and/or neighborhood circulation improvements, the bus transfer facility scores appreciably lower.

From this assessment, it appears that: 1) there is sufficient area at the Swanston station to accommodate both a bus transfer facility and a joint use opportunity; and 2) if a bus facility were sited at Swanston, combining it with a joint use would result in greater consistency with stakeholder values than siting it alone.

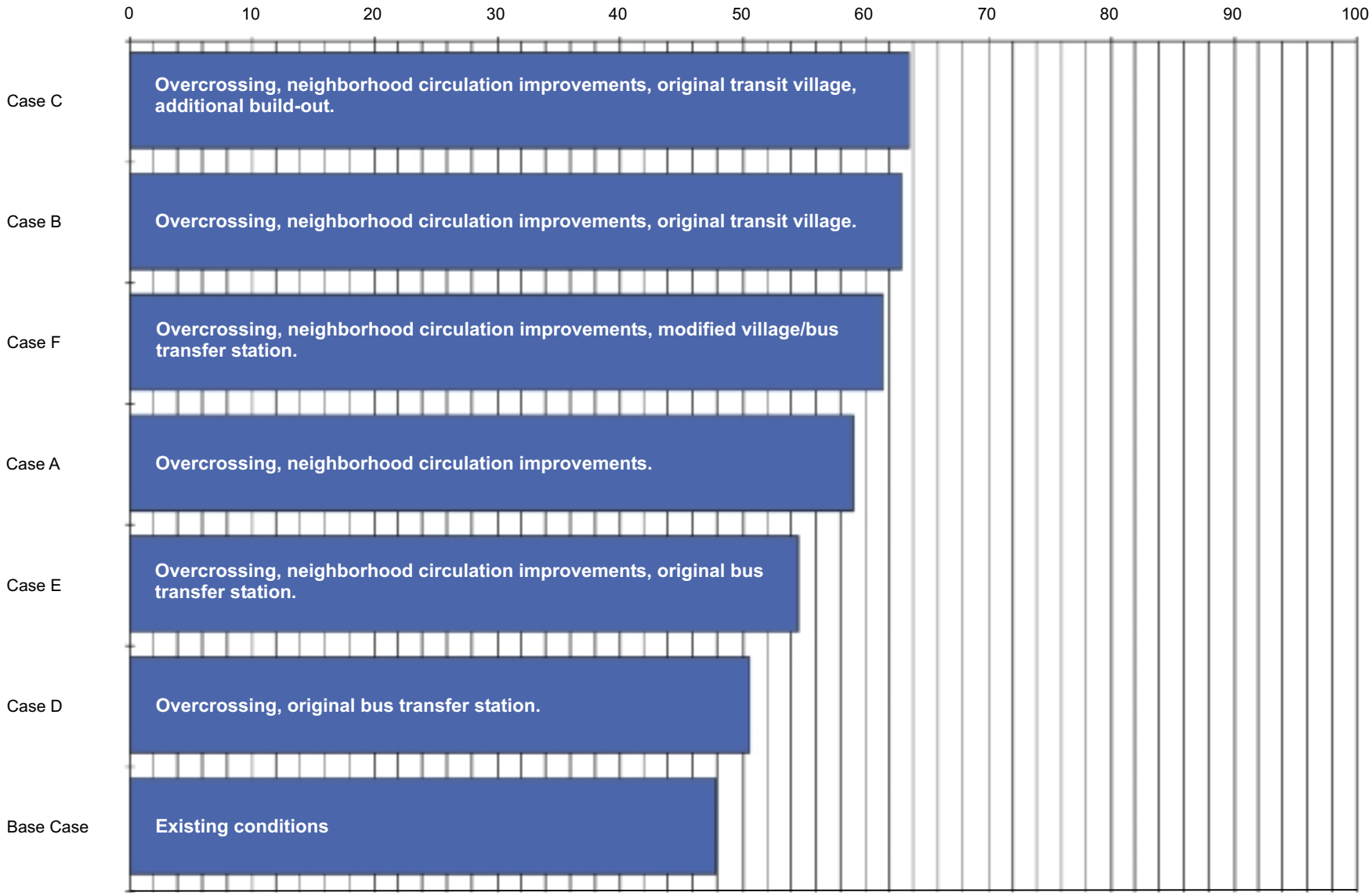
Table 1 Indicator Scores

ELEMENT	INDICATORS	UNITS	BASE	CASE A	CASE B	CASE C	CASE D	CASE E	CASE F
Demographics	population	(residents)	1986.00	1986.00	2034.00	2084.00	1986.00	1986.00	2060.00
	employment	(jobs)	6008.00	9235.00	9725.00	10432.00	6008.00	6008.00	10390.00
Land-use	block size	(acres)	5.67	5.67	4.49	4.49	5.67	5.67	4.78
	parcel size	(sq ft)	20713.82	20713.82	20359.30	20359.30	20713.82	20713.82	20578.50
	use mix	(0 - 1 index)	0.36	0.35	0.35	0.35	0.37	0.37	0.39
	use balance	(0 - 1 index)	0.65	0.66	0.67	0.68	0.65	0.65	0.67
	neighborhood completeness	(%)	61.11	61.11	88.89	88.89	61.11	61.11	88.89
	transit-focused development potential	(%)	37.31	35.80	26.94	23.22	38.74	38.74	24.05
Housing	multi-family dwelling density	(DU/ac)	19.65	19.65	20.09	20.40	19.65	19.65	20.00
	average residential density	(DU/ac)	10.72	10.72	11.05	11.25	10.72	10.72	10.98
	grocery shopping proximity	(ft)	1504.51	1522.63	1313.15	1309.72	1542.32	1559.81	1378.32
	bus transit proximity to housing	(ft)	1719.17	795.38	797.27	781.28	1290.03	720.53	703.79
	rail transit proximity to housing	(ft)	2217.43	2033.82	1887.30	1867.76	2188.03	2047.10	2005.41
Employment	jobs to housing balance	(ratio)	7.05	10.79	10.77	11.24	7.05	7.05	11.47
	employment density	(emp/ac)	37.30	53.68	55.85	58.27	37.30	37.30	57.50
	non-residential building density	(FAR)	0.43	0.44	0.50	0.51	0.43	0.43	0.48
	bus transit proximity to employment	(ft)	1561.29	940.55	928.30	922.43	1362.61	934.86	797.35
	rail transit proximity to employment	(ft)	3237.30	1922.48	1744.13	1705.24	2299.89	2286.31	1808.82
Recreation	park space availability	(ac/1000 res)	3.76	3.76	3.83	3.74	3.58	3.76	3.63
	park space proximity	(ft)	1450.57	1431.40	1277.83	1275.70	1470.23	1451.81	1476.08
Environment	reactive organic gas (ROG) emissions	(lbs/person/yr)	18.27	18.24	18.23	18.19	18.21	18.85	18.73
	oxides of nitrogen (NOx) emissions	(lbs/person/yr)	17.12	17.10	17.08	17.05	17.06	17.73	17.60
	carbon monoxide (CO) emissions	(lbs/person/yr)	246.06	245.58	245.49	244.95	245.37	252.52	251.39
	greenhouse gas (CO2) emissions	(lbs/person/yr)	7665.05	7661.40	7650.45	7639.50	7635.85	8004.50	7924.20
	open space	(%)	0.36	0.36	0.42	0.42	0.36	0.36	0.36
Travel	internal street connectivity	(0 - 1 index)	0.81	0.85	0.79	0.80	0.82	0.86	0.85
	external street connectivity	(ft)	774.42	721.01	721.01	721.01	774.42	721.01	721.01
	street network density	(mi/sq mi)	16.02	18.16	18.59	18.59	16.99	18.16	18.18
	transit-oriented residential density	(DU/ac)	10.80	10.72	10.98	11.18	10.72	10.72	10.91
	transit-oriented employment density	(emp/ac)	32.43	40.95	43.46	45.46	23.76	23.76	37.66
	transit service coverage	(stops/sq mi)	11.07	28.28	28.28	28.28	15.98	34.43	34.43
	transit service density	(veh-mi/day/acre)	3.75	5.52	5.52	5.52	10.58	11.13	11.13
	pedestrian network coverage	(%)	46.14	70.79	72.19	72.19	50.54	71.46	71.42
	pedestrian crossing distance	(ft)	38.29	36.90	35.25	35.25	38.13	37.91	37.89
	pedestrian safety at intersections	(%)	46.32	47.92	50.91	50.91	46.32	48.35	53.19
	pedestrian route directness	(ratio)	1.56	1.32	1.30	1.32	1.45	1.41	1.40
	bicycle network coverage	(%)	0.30	0.49	0.48	0.49	0.28	0.49	0.50
	traffic calming	(%)	1.89	4.97	4.39	4.39	1.76	1.64	4.76
	auto distances traveled	(mi/day/person)	21.00	20.99	20.96	20.93	20.92	20.88	20.96

Table 2 Indicator Rating and Weighting

Element	Indicator	Weighting		Rating		
		Element Importance	Allocation to Indicators	Positive Movement of Score	Worst Indicator Score (Gets 0)	Best Indicator Score (Gets 1)
Land-use		20				
	block size		3	-	20	1
	parcel size		4	-	50,000	1,500
	use mix		3	+	0	1
	use balance		3	+	0	1
	neighborhood completeness		5	+	0	100
	transit-focused development potential		2	+	0	99
Housing		16				
	multi-family dwelling density		4	+	15	50
	average residential density		0	+	10	20
	grocery shopping proximity		5	-	2,640	300
	bus transit proximity to housing		5	-	2,640	300
	rail transit proximity to housing		2	-	2,640	300
Employment		17				
	jobs to housing balance		0	+/-	0.5/3	1
	employment density		3	+	20	50
	non-residential building density		2	+	0.5	2
	bus transit proximity to employment		6	-	2,640	300
	rail transit proximity to employment		6	-	2,640	300
Recreation		8				
	park space availability		4	+	0	2
	park space proximity		4	-	2,640	300
Environment		9				
	carbon monoxide (CO) emissions		4	-	400	200
	greenhouse gas (CO_2) emissions		2	-	10,000	6,500
	open space		3	+	2	10
Travel		30				
	internal street connectivity		1	+	0	1
	external street connectivity		1	-	1,000	500
	street network density		2	+	25	25
	transit-oriented residential density		4	+	10	20
	transit-oriented employment density		5	+	15	75
	transit service coverage		2	+	5	15
	transit service density		2	+	1	2
	pedestrian network coverage		3	+	10	90
	pedestrian crossing distance		2	-	50	30
	pedestrian safety at intersections		1	+	25	75
	pedestrian route directness		2	-	2	1
	bicycle network coverage		1	+	0	1
	traffic calming		1	+	0	99
	auto distances traveled		3	-	30	18
		100	100			

Case Ranking



Next steps remain largely unchanged from the August 2000 study. Stakeholders need to organize themselves and pursue specific action related to:

- Finalizing design details of the station overcrossing.
- Seeking funds for neighborhood circulation improvements.
- Determining the market feasibility of a mixed-use activity center at the rail station, possibly in conjunction with redevelopment of the Aramark property.

An addition to this list is now the possibility of a bus transfer facility. Such a facility could add value to the station by bringing additional business patronage to a transit village. Alternatively, the bus traffic associated with such a facility could have adverse neighborhood impacts if affected streets are not sufficiently upgraded to handle multi-modal traffic.

As RT continues to study the bus transfer facility, particular consideration should be given to:

- Refinement of the combined transfer facility and joint use concept presented in this report. Such refinement should include two components: further design development of the site plan, and preparation of a real estate market study.
- Identification of appropriate neighborhood streets for bus ingress and egress to the station; and needed improvements for multi-modal travel along those streets.
- Addition of bus stops on the ingress/egress routes to and from the station.
- Realignment of bus routes onto El Camino Avenue instead of Arden Way to improve bus accessibility in the northern portion of the catchment area.