

SANTA CLARA BICYCLE & PEDESTRIAN WAYFINDING

PROPOSAL FROM THE SUBCOMMITTEE OF THE SANTA CLARA BICYCLE AND PEDESTRIAN ADVISORY COMMITTEE (BPAC)

OCTOBER 2019

DIANE HARRISON, KEN KRATZ, BRUCE DONOGHUE, THANH DO



Legend:

Ken
Sept 19, 2019

CONTENTS

- Basis For Selections
- City Wayfinding System
- Routes:
 1. Mini Routes near Transit
 2. Cabrillo Route
 3. San Tomas Aquino Route
 4. Agate Route
 5. Monroe Route
 6. Tasman Route
- Funding Sources
- Sign Types
- Recommendations
- Appendix

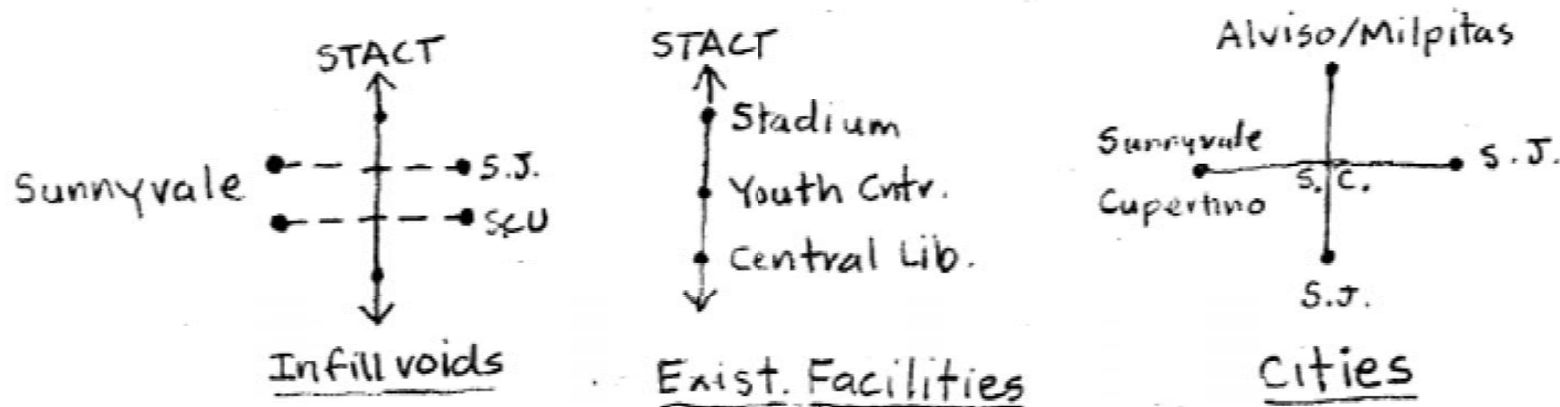


Great American
Wayfinding Map

Ken
Sept 19, 2019

BASIS FOR SELECTIONS

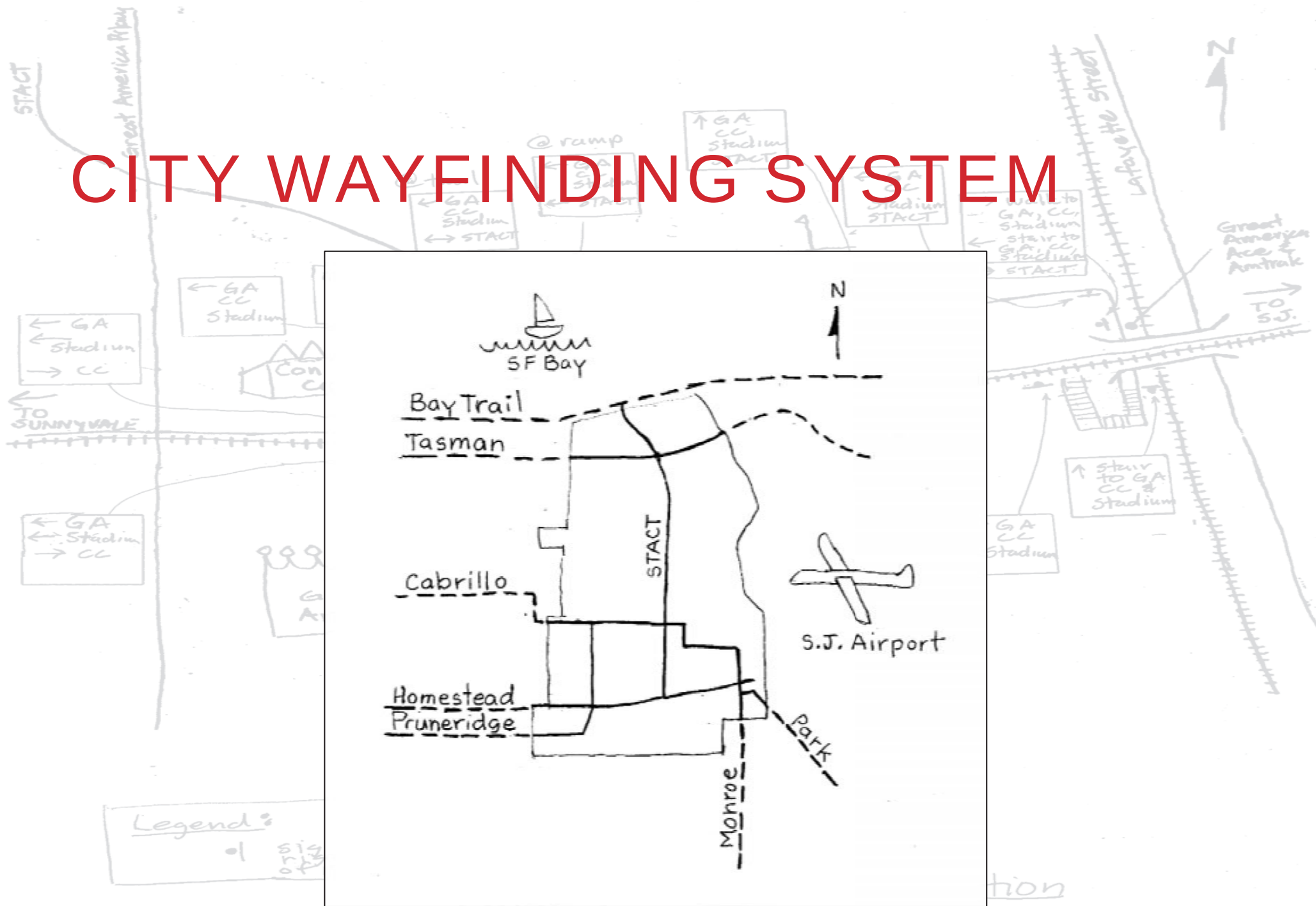
- Interconnect adjacent cities
- Create wayfinding on existing routes
- Infill voids in the system
- Connect primary community assets and facilities



Wayfinding Map

Ken
Sept 19, 2019

CITY WAYFINDING SYSTEM



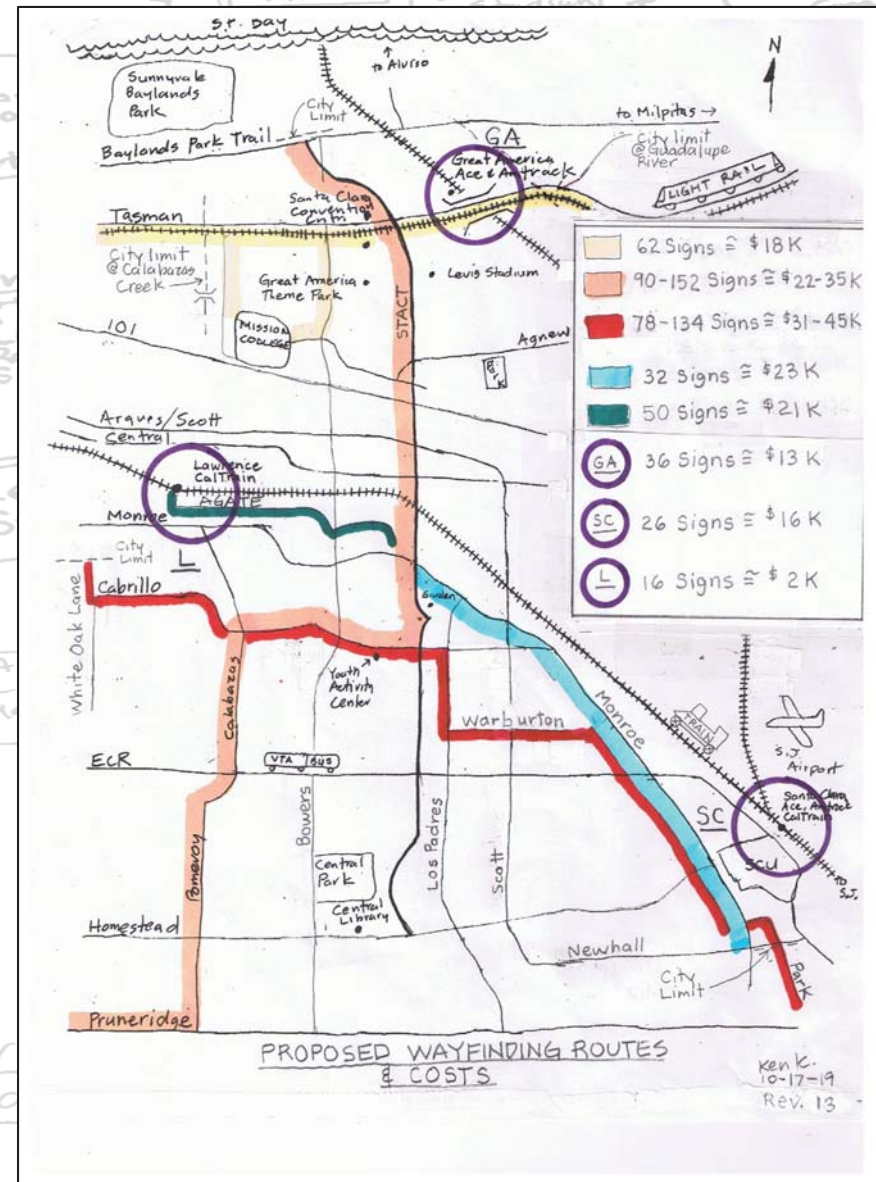
Note: CalTrain Station routes are not shown

Ken
Sept 19, 2019

ROUTES AND COSTS

- Range of routes cost from estimated 16 signs/\$2K to 152 signs/\$35K.
- Prioritize mini routes from transit stations @ Great America, Santa Clara and Lawrence CalTrain Stations.
- Prioritize cross-town connection from Sunnyvale to San Jose via Cabrillo Ave to Park Ave.

Disclaimer: Additional costs will be incurred when lane stripes and marking are installed on now blank suggested routes



MINI ROUTES WAYFINDING

Direction: Varies

Starts: near Transit Stations

Ends: Various map destinations

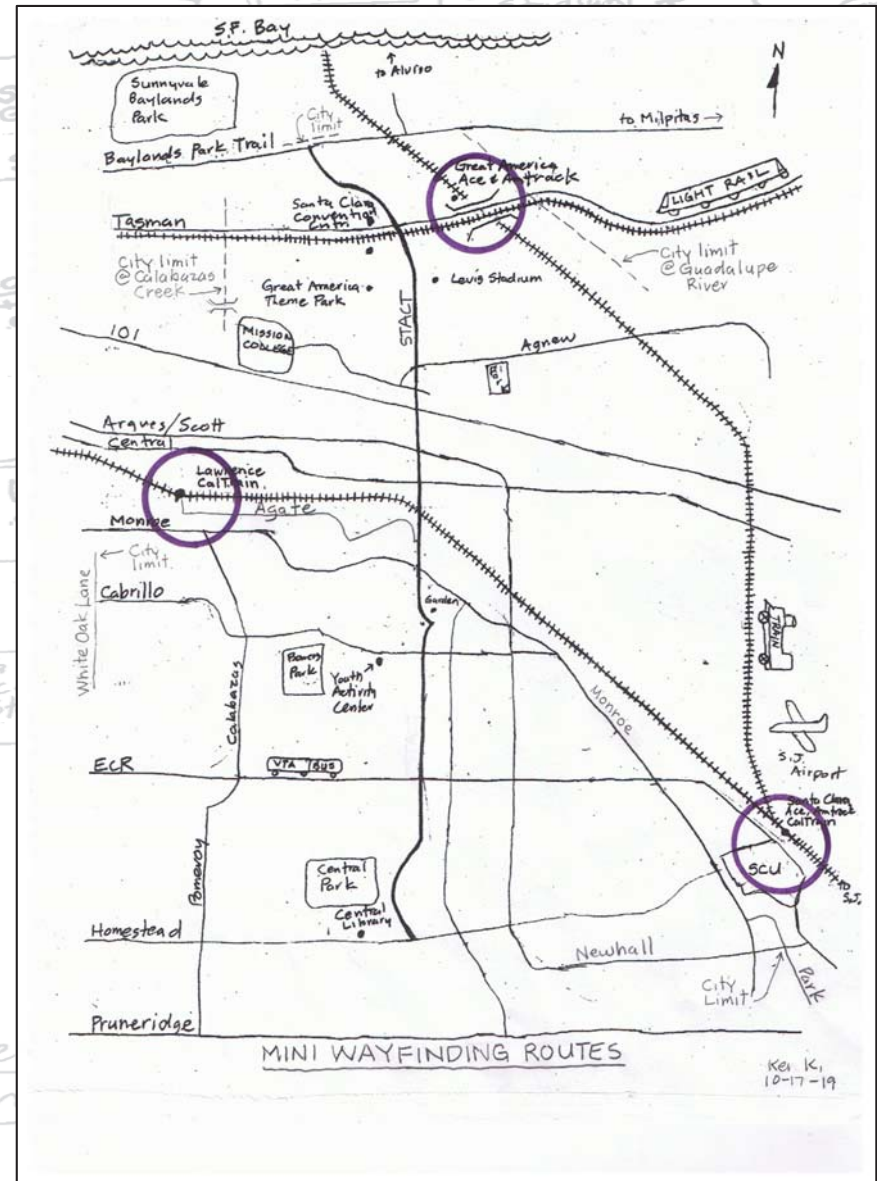
Length: Short

of Signs: 16-36

Estimated Costs: \$2K - \$16K

Highlights:

- Closes last-mile gaps
- Santa Clara station to Santa Clara University
- Great America station to Levi's stadium/Mission College
- Lawrence Station to Agate Route



CABRILLO ROUTE

Direction: West-East

Starts: White Oak Lane in Santa Clara, at the border of Sunnyvale

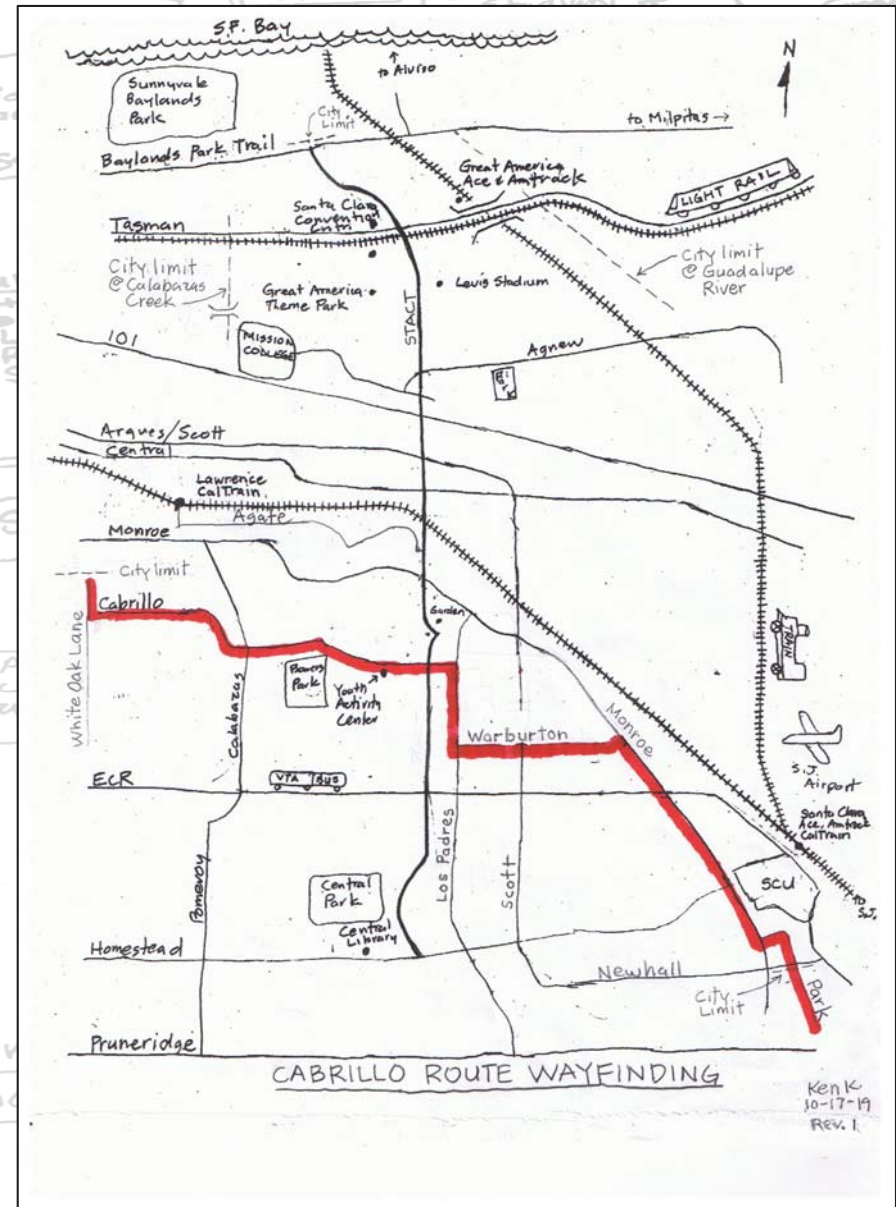
Ends: Park Ave in San Jose

Length: 6 miles

of Signs: 78-134

Estimated Costs: \$32K-\$46K

Highlights: City Hall, Triton Museum, City parks, Schools, Library, Senior Center, Santa Clara University, US Post Office, Franklin Mall, Communities of Concern.



SAN TOMAS AQUINO ROUTE

Direction: North-South

Starts: S.F. Bay Trail

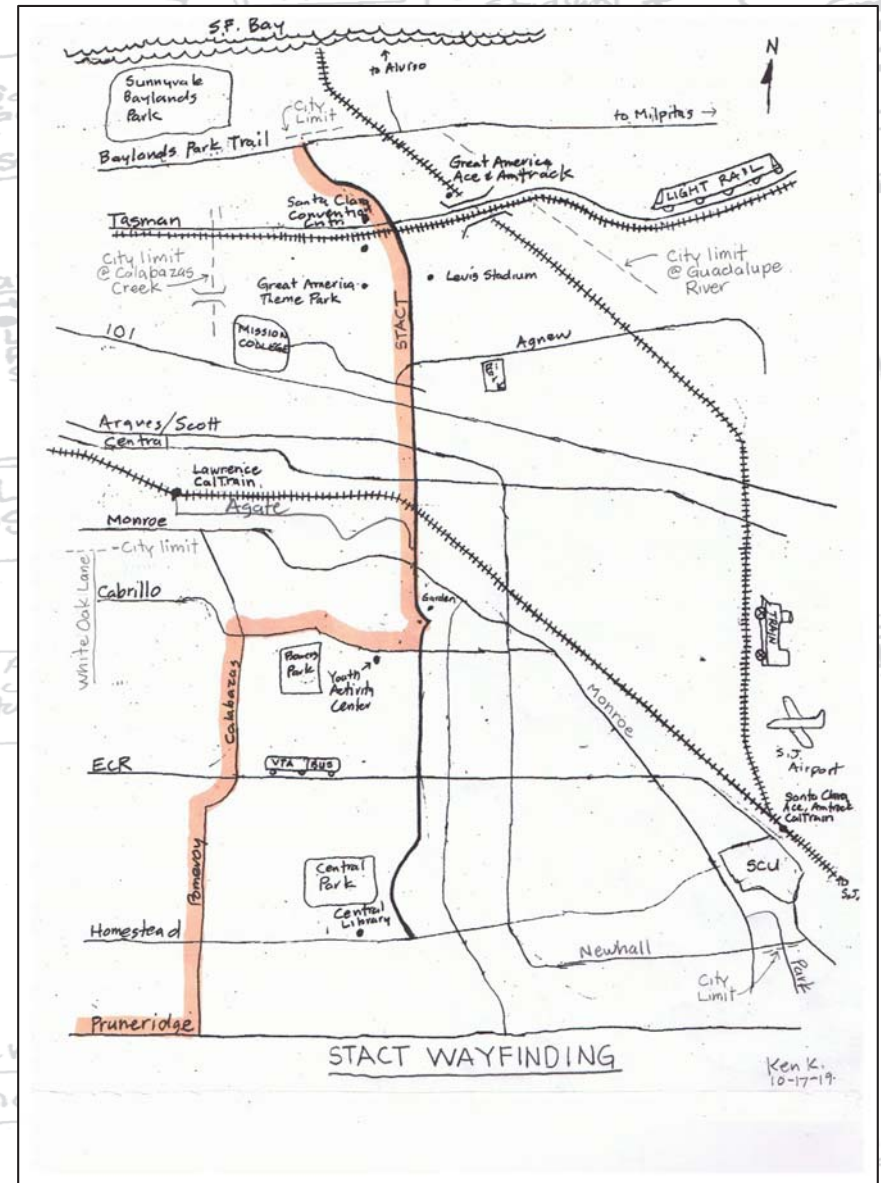
Ends: Pruneridge Ave in
Cupertino

Length: 7 miles

of Signs: 90-152

Estimated Costs: \$22-\$35K

Highlights: Connects schools,
youth centers and employment
centers



AGATE ROUTE

Direction: West-East

Starts: French St at
Lawrence CalTrain Station

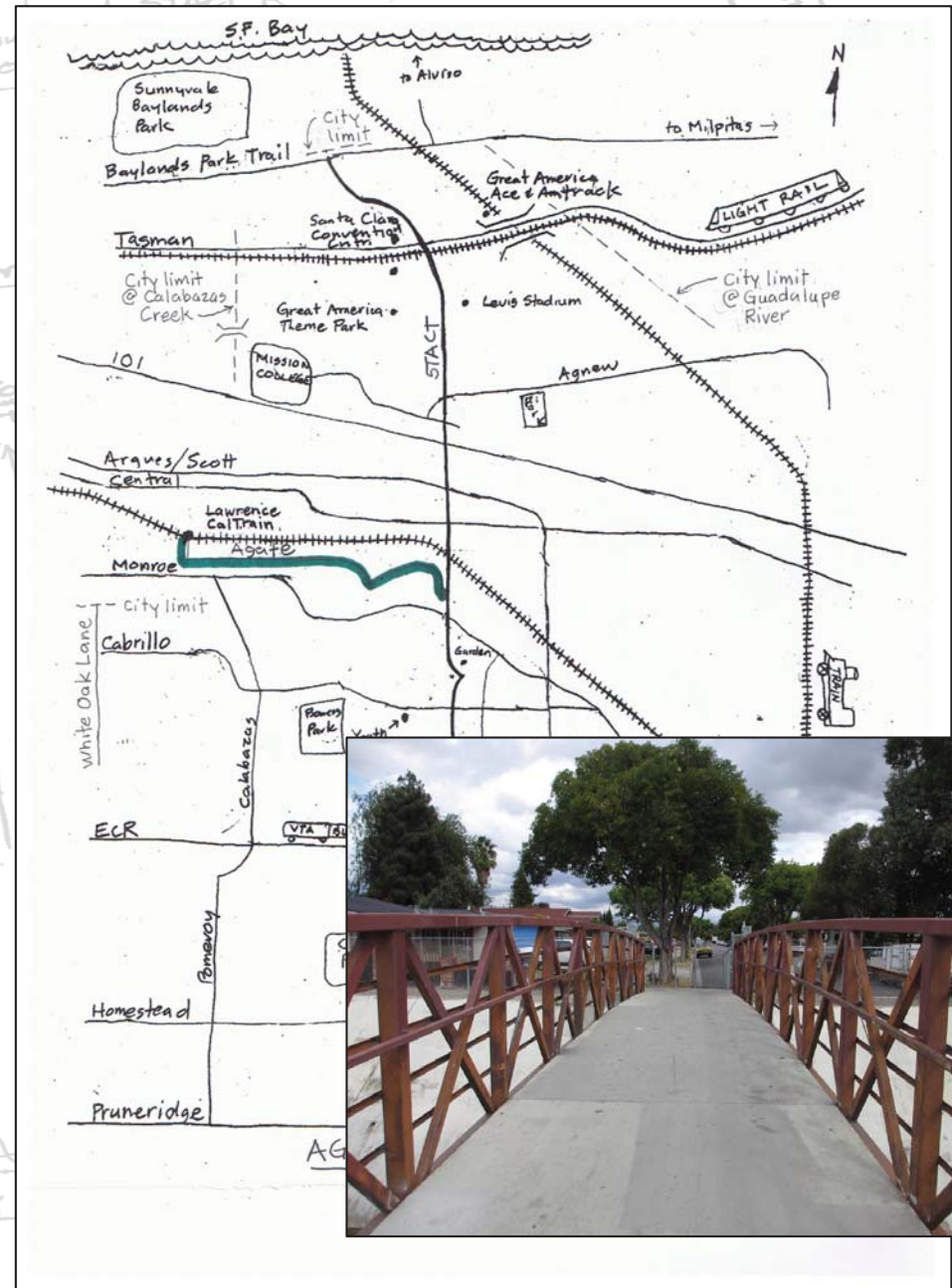
Ends: STACT @ Monroe St

Length: 2 miles

of Signs: 50

Estimated Costs: \$21K

Highlights: Directs bicycle
traffic from Lawrence station
to STACT, covers Community
of Concern.



MONROE ROUTE

Direction: West-East

Starts: Monroe St @ STACT

Ends: Newhall St. in San Jose

Length: 3 miles

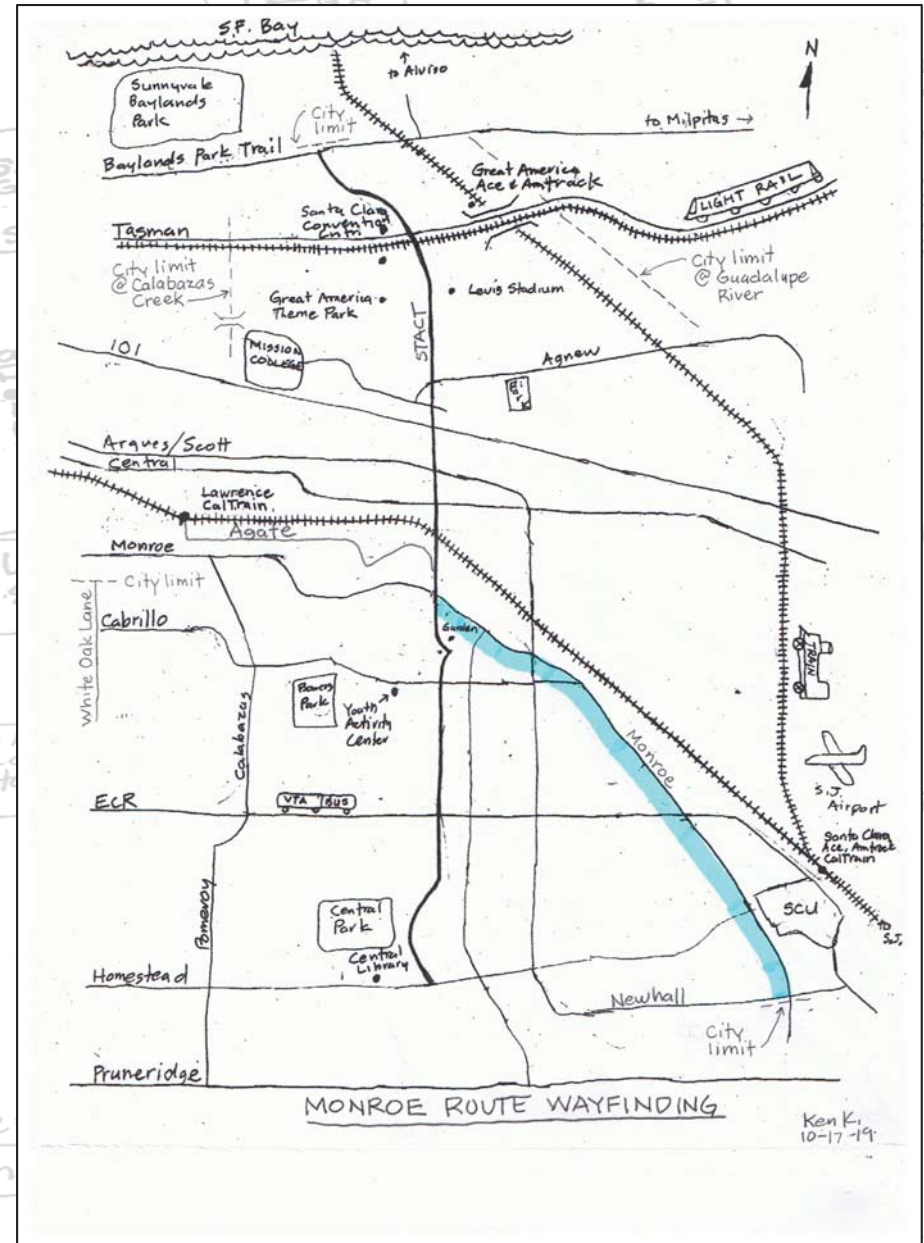
of Signs: 32

Estimated Costs: \$23K

Highlights: Covers Community of Concern, Franklin Mall, old Santa Clara

Legend:

- 1 sign on right side of pole



TASMAN ROUTE

Direction: West-East

Starts: Tasman Drive @
Calabazas Creek Trail

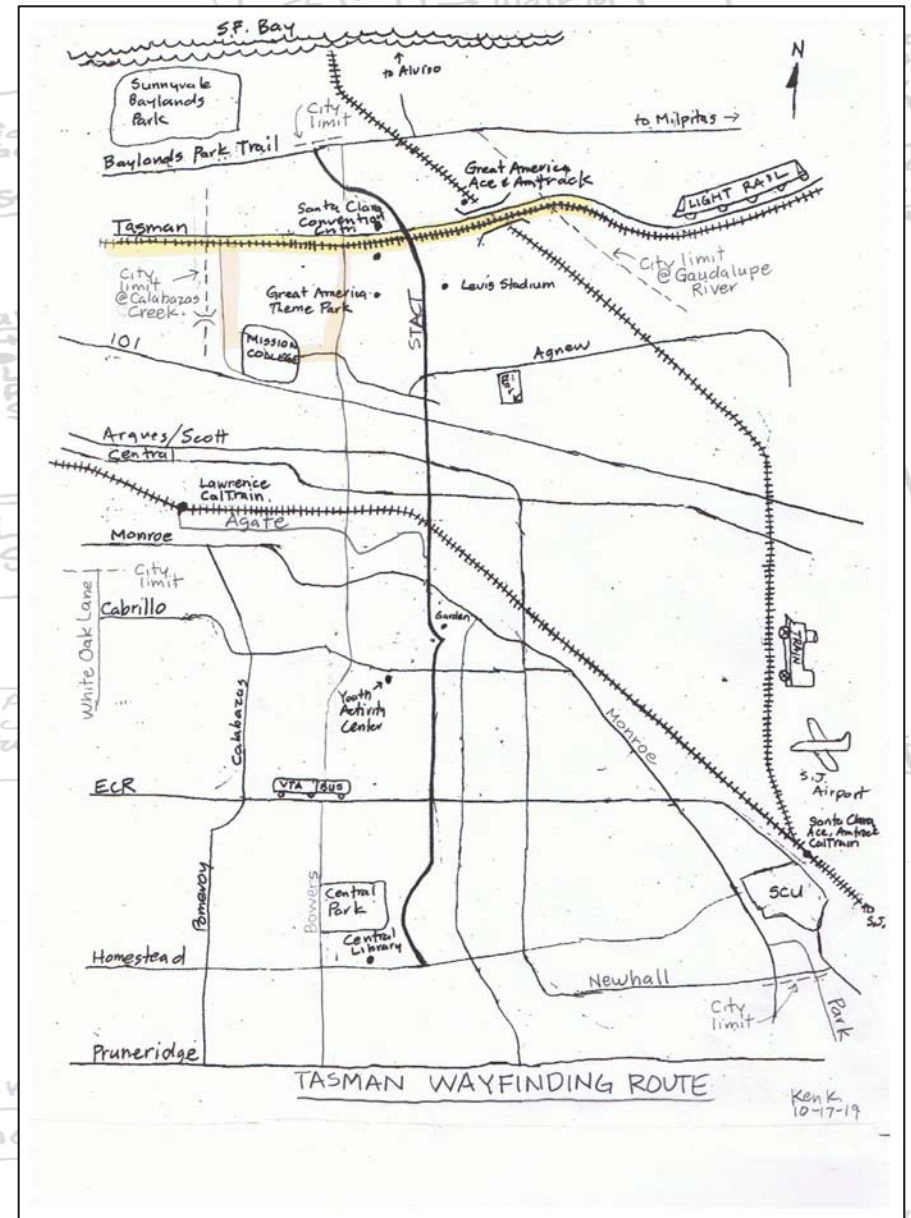
Ends: Guadalupe River Trail, San
Jose

Length: 3 miles

of Signs: 62

Estimated Costs: \$18K

Highlights: Links to bike lanes at
San Jose and Sunnyvale
borders, access to many city
attractions, Mission College



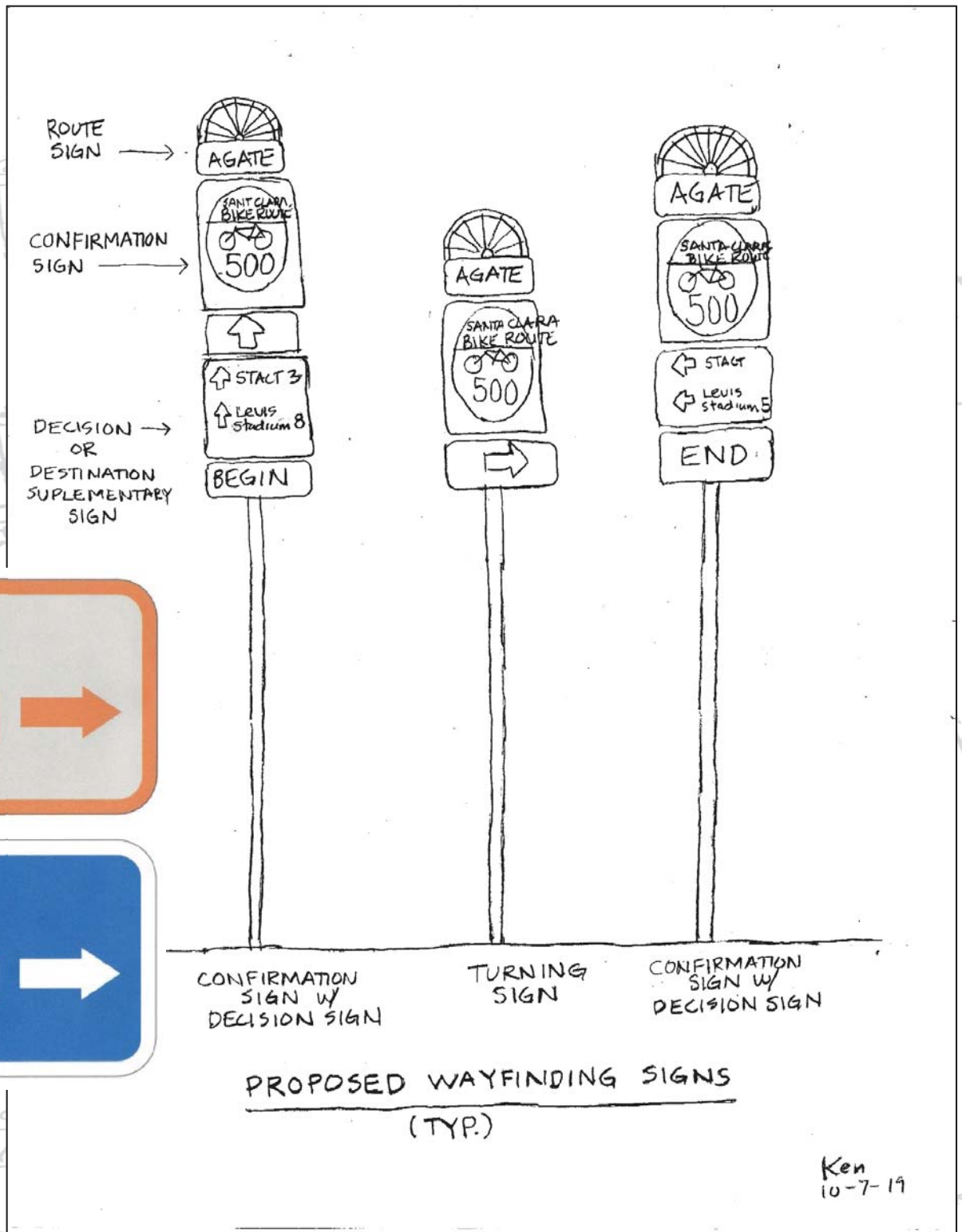
FUNDING SOURCES

- Transportation Funds for Clean Air (with VTA funding; reduce vehicle emissions)
- Bicycle Facilities Grant Program (reduce vehicle emissions)
- One Bay Area Grant (with VTA funding; projects in Priority Development Areas)
- MTC: Regional Measure 3 (highway and transit projects)
- VTA: Measure B (maintenance, transit, and traffic safety)
- VERBS (vehicle emissions reduction at schools, Safe Routes to Schools program)
- TDA 3 (transportation development)
- CSC: Traffic Impact Fee (mitigate traffic impacts)
- Multi-modal Improvement Plan (City Place project, improve air and transport)

Great America Train Station
Wayfinding Map

Ken
Sept 19, 2019

SIGN TYPES



RECOMMENDATIONS

Priorities

1. Mini Routes around transit
2. Cabrillo Route to Park Ave
3. San Tomas Aquino Route
4. Agate Route to STACT
5. Monroe Route
6. Tasman Route

Legend:

- 1 sign on right side of pole

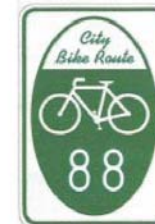
California MUTCD 2014 Edition
(FHWA's MUTCD 2009 Edition, including Revisions 1 & 2, as amended for use in California)

Page 1370

Figure 9B-4 (CA). California Guide Signs for Bicycle Facilities



G93C (CA)



SG45 (CA)



S17 (CA)



D1-2b



D1-3b

Great ...
Wayfinding Ma

Ken
Sept 19, 2019

APPENDIX

- Cost Estimate Summary
- Sign Study by Diane Harrison
- Base Map by Bruce Donoghue
- Single Line Maps by Ken Kratz
- Signage Visuals by Bruce Donoghue and Ken Kratz
- Funding Sources Expanded
- Community of Need Defined by Santa Clara Bike Plan Update 2018
- Santa Barbara Bicycle Coalition
- Link to Google Drive Appendix

Legend:

Great America Train Station
Wayfinding Map

Ken
Sept 19, 2019

COST ESTIMATE SUMMARY



The background map shows the Santa Clara CalTrain station area. It includes labels for 'Great America Highway', 'Lafayette Street', 'Santa Clara Golf & Tennis', and 'Great America Ace & Amtrak'. Hand-drawn boxes and arrows indicate various routes and sign locations, with labels like 'STACT', 'GA CC Stadium', and 'ramp'.

Routes	Priority	Existing Poles	Additional Poles Requested	Total Poles	Total Signs Requested	Estimated Cost
Santa Clara CalTrain	1	7	6	13	26	\$15,960
Great America	1	15	3	18	36	\$12,810
Lawrence CalTrain	1	5	0	5	16	\$1,500
Cabrillo Route	2	30-58	9	39-67	78-134	\$31,170-\$45,150
San Tomas Aquino Route	3	43-74	2	45-76	90-152	\$22,400-\$35,420
Agate Route	4	19	6	25	50	\$21,000
Monroe Route	5	7	9	16	32	\$23,170
Tasman Route	6	28	3	31	62	\$18,270

Legend:

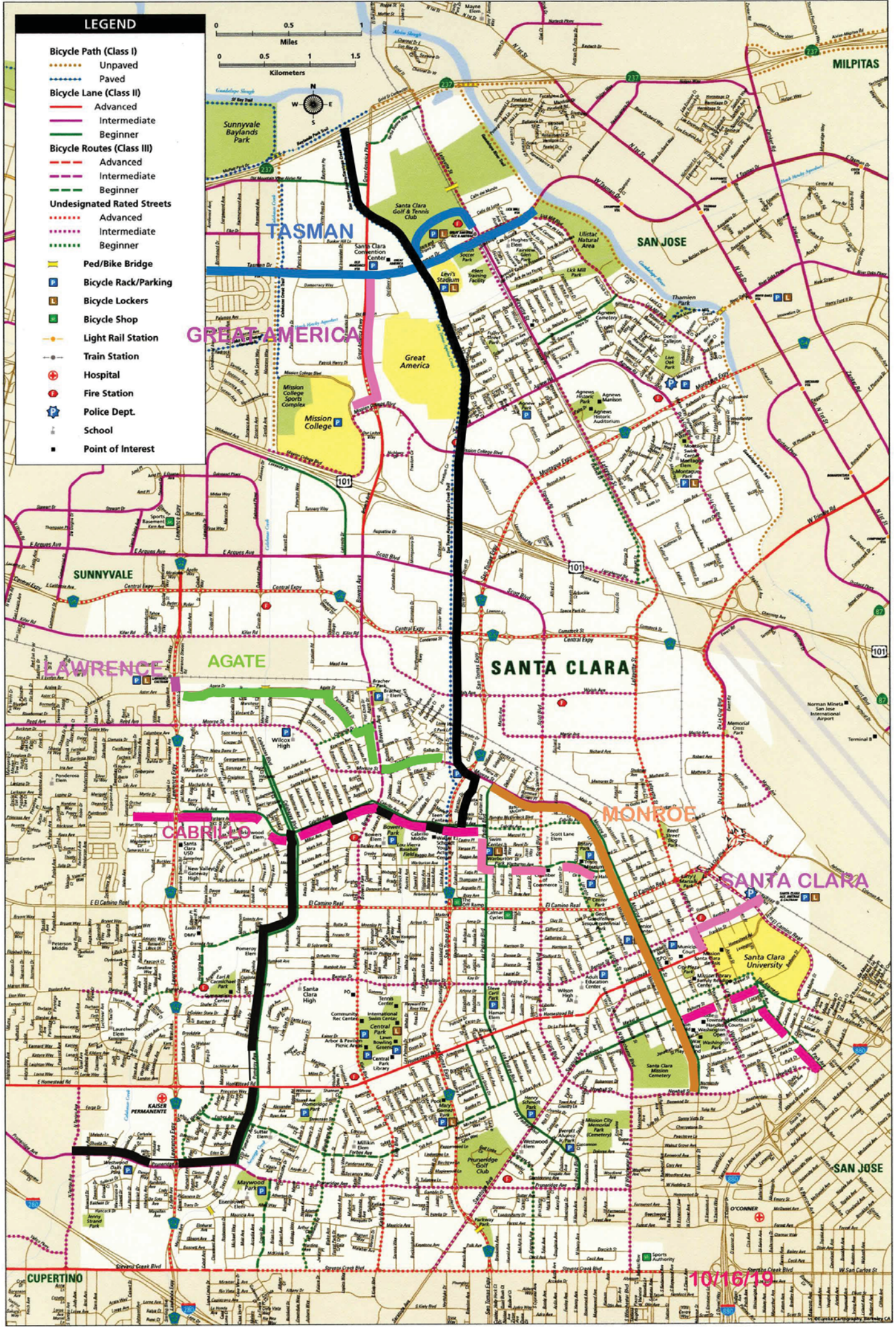
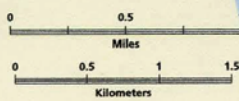
Disclaimer: Additional costs will be incurred when lane stripes and marking are installed on now blank suggested routes

Source for Approximate Costs: p. 27 of [2014 Bicycle Wayfinding Proposal for the Santa Barbara Coast Communities](#) from Santa Barbara Bicycle Coalition

Ken
Sept 19, 2019

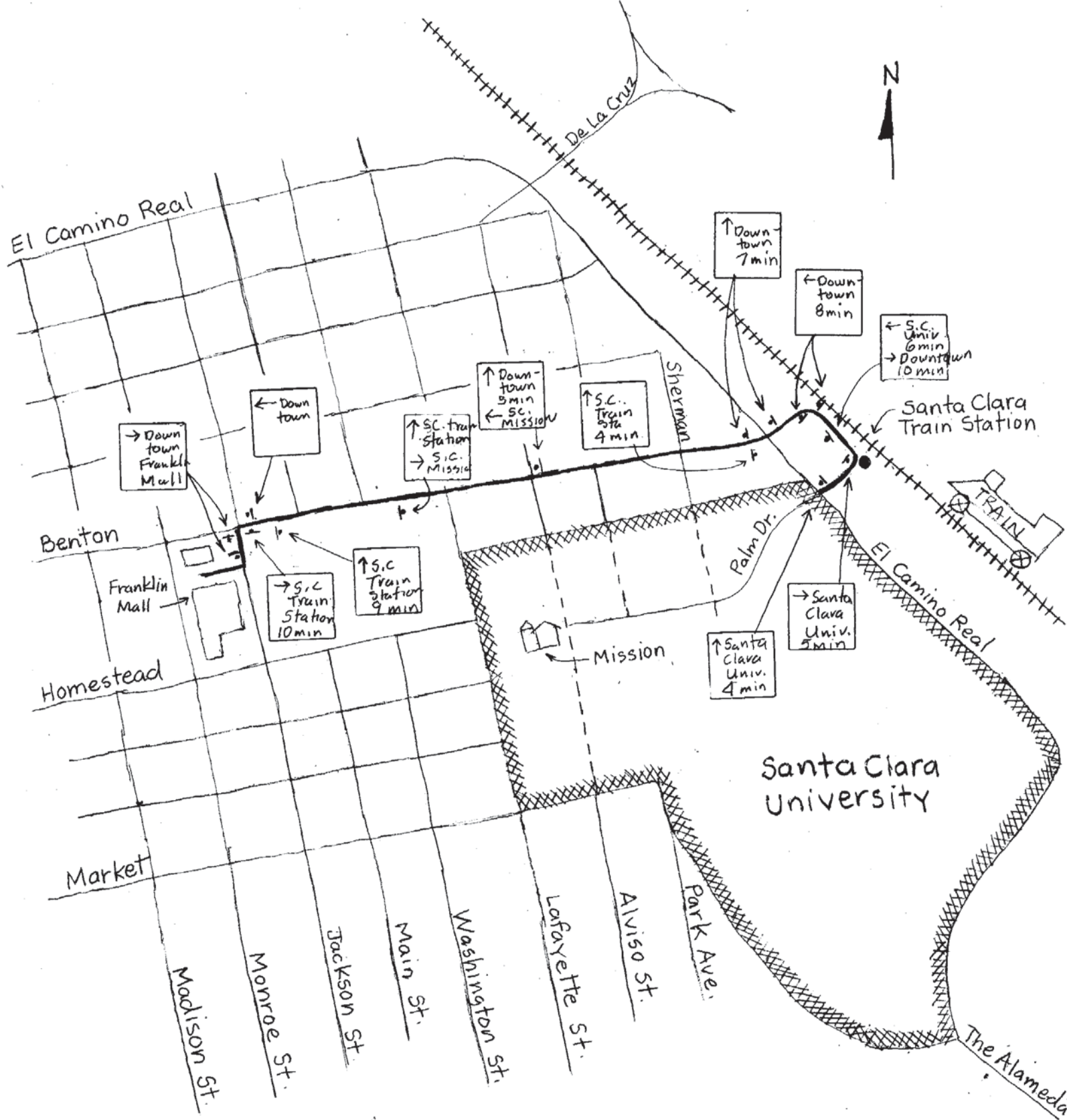
LEGEND

- Bicycle Path (Class I)**
 - Unpaved
 - Paved
- Bicycle Lane (Class II)**
 - Advanced
 - Intermediate
 - Beginner
- Bicycle Routes (Class III)**
 - Advanced
 - Intermediate
 - Beginner
- Undesignated Rated Streets**
 - Advanced
 - Intermediate
 - Beginner
- Ped/Bike Bridge**
- Bicycle Rack/Parking**
- Bicycle Lockers**
- Bicycle Shop**
- Light Rail Station**
- Train Station**
- Hospital**
- Fire Station**
- Police Dept.**
- School**
- Point of Interest**



10/16/19

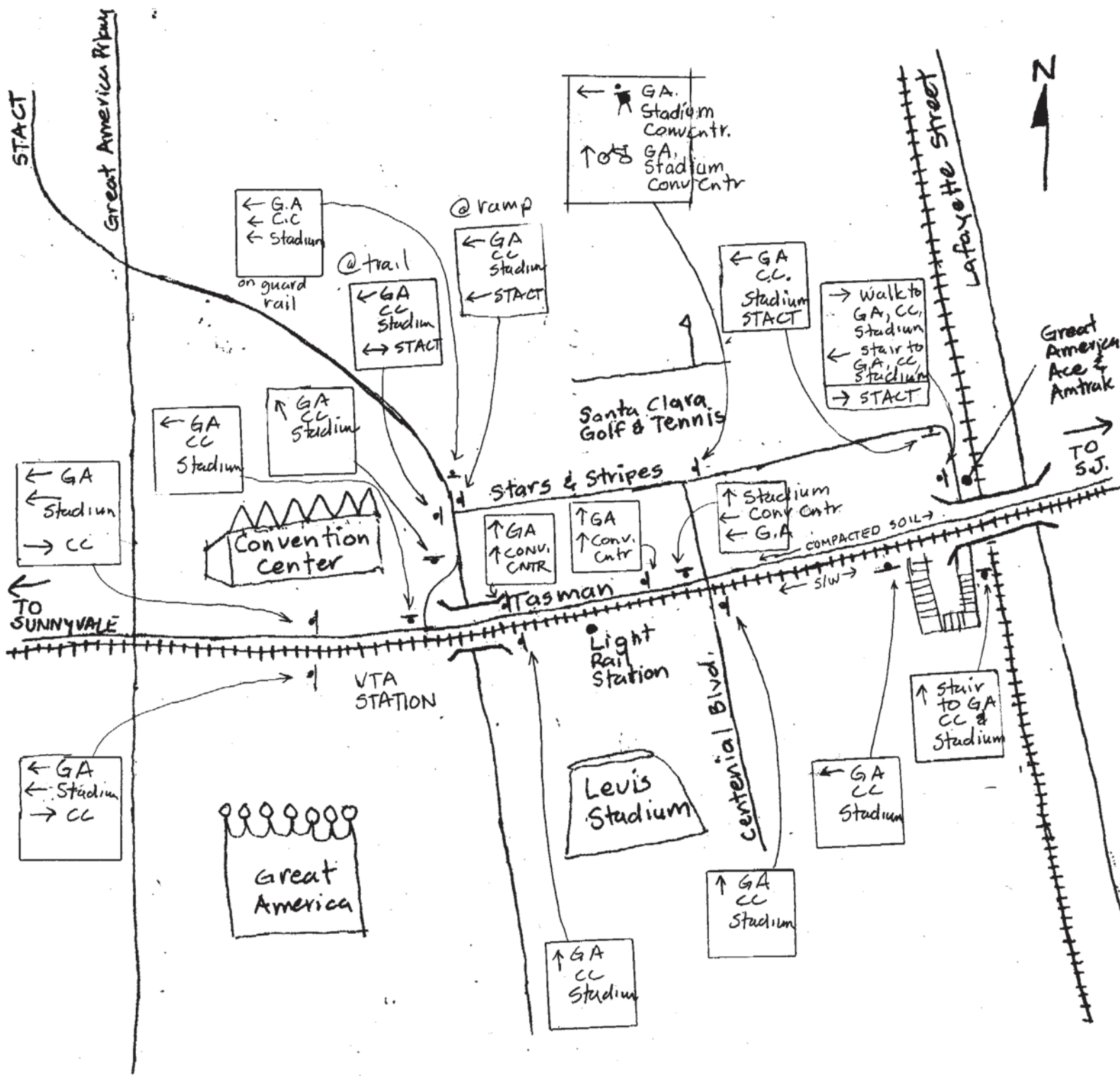
El Camino Real



Legend:
--- walk path
+ sign on left side of pole

Santa Clara Train Station Wayfinding Map

Ken K.
Oct. 15, 2019



Kifer

4

Lawrence
CalTrain
Station.

San Zeno Way

Insurance station



→ Law
Cait.

↑ Agak

↑ Law.
CalT.

← to
SL.

← to
STACT

Aster

Willow

Lawrence Expy.

↑ to SL
↑ to STACK

← to
S.C.

→ Law
Calc.

↓
• Agate

↑ to S.C.

Reed

Monroe

← SUNNYVALE | SANTA CLARA →

Legend:

- sign on right side of pole
- one way

Lawrence CalTrain Station wayfinding Map

Ken K.
Oct. 15, 2019

S.F. Bay



Sunnyvale
Baylands
Park

STACT
↑ Levis
↑ M.C.
↑ Prune
2 START

to Alviso

STACT
↔ Bay Trail
END

STACT
→ Train
↑ Bay Trail

to Milpitas

Baylands Park Trail

COPIED

STACT
→ Conv Cntr
↑ Levis
↑ M.C.

Santa Clara
Convention Cntr

Great America
Ace & Amtrak



Tasman

↑ M.C. ↑ M.C. → M.C.

Great America
Theme Park

STACT
→ M.C.
← Park
↑ Prune

Levis Stadium

STACT
→ Levis
← Conv Cntr.
↑ Bay

Mission
College

Agnew

STACT
↑ YAL
↑ Cntrl Lib
↑ Prune

STACT
↔ Cntrl Expy
↑ YAL
↑ Prune

Arques/Scott
Central

→ Park

STACT
→ Park
↑ Levis
↑ Conv Cntr

STACT
← M.C.
↑ Levis
↑ Conv Cntr

Lawrence
CalTrain

Agate

STACT
↑ YAL
↑ ECR
↑ Prune

Monroe

STACT
← Pom School
← Prune

STACT
→ YAL
→ Prune
↑ ECR

STACT
↑ YAL
↑ ECR
↑ Prune

STACT
↑ M.C.
↑ Levis
↑ Conv Cntr

STACT
↑ M.C.
↑ Levis
↑ Conv Cntr

STACT
↑ M.C.
↑ Levis
↑ Conv Cntr

Cabrillo → H.S.

STACT
↑ Pom School
↑ Prune

STACT
→ YAL
→ Prune
↑ Bay Trail

STACT
↑ Pom School
↑ Prune

STACT
→ Levis
→ Conv Cntr
↑ Bay Trail

STACT
↑ Levis
↑ Conv Cntr
↑ Bay Trail

STACT
↑ Levis
↑ Conv Cntr
↑ Bay Trail



S.J. Airport

Santa Clara
Ace, Amtrak
CalTrain

SCU

to S.J.

ECR

STACT
← Pom School
← Home
← Prune

STACT
↑ YAL
↑ Levis
↑ Bay Trail

STACT
↑ YAL
↑ Levis
↑ Bay Trail

STACT
↑ YAL
↑ Levis
↑ Bay Trail

STACT
↑ YAL
↑ Levis
↑ Bay Trail

STACT
↑ YAL
↑ Levis
↑ Bay Trail

STACT
↑ YAL
↑ Levis
↑ Bay Trail

STACT
↑ YAL
↑ Levis
↑ Bay Trail

Homestead

STACT
↑ Sunny
END

STACT
→ Prune

STACT
↑ Conv Cntr
↑ Levis
↑ Bay Trail

STACT
↑ Conv Cntr
↑ Levis
↑ Bay Trail

STACT
↑ Conv Cntr
↑ Levis
↑ Bay Trail

STACT
↑ Conv Cntr
↑ Levis
↑ Bay Trail

STACT
↑ Conv Cntr
↑ Levis
↑ Bay Trail

STACT
↑ Conv Cntr
↑ Levis
↑ Bay Trail

STACT
↑ Conv Cntr
↑ Levis
↑ Bay Trail

SAN TOMAS AQUINO CREEK TRAIL
WAYFINDING

Ken K.
10-12-19

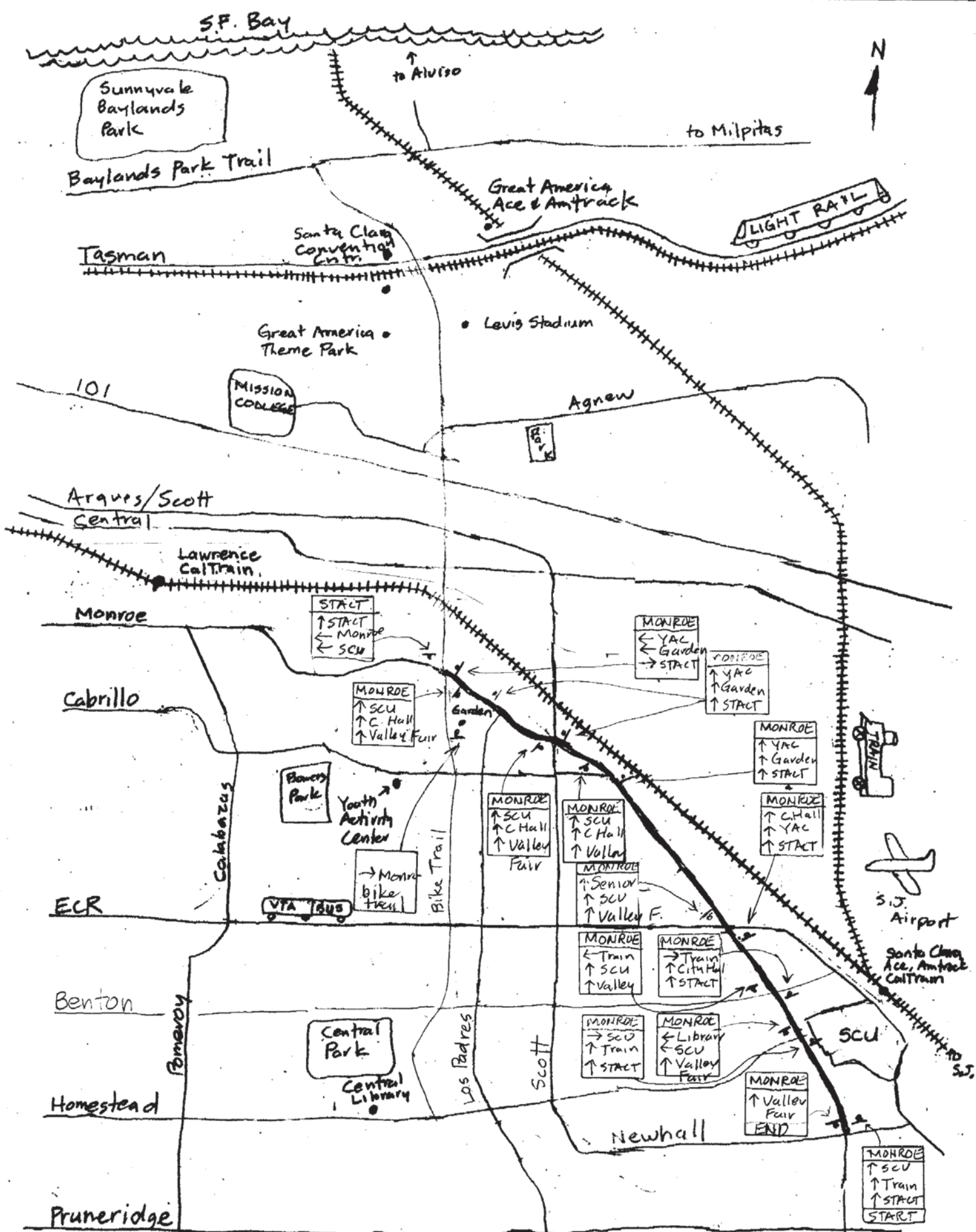


Figure 9B-6. Example of Bicycle Guide Signing

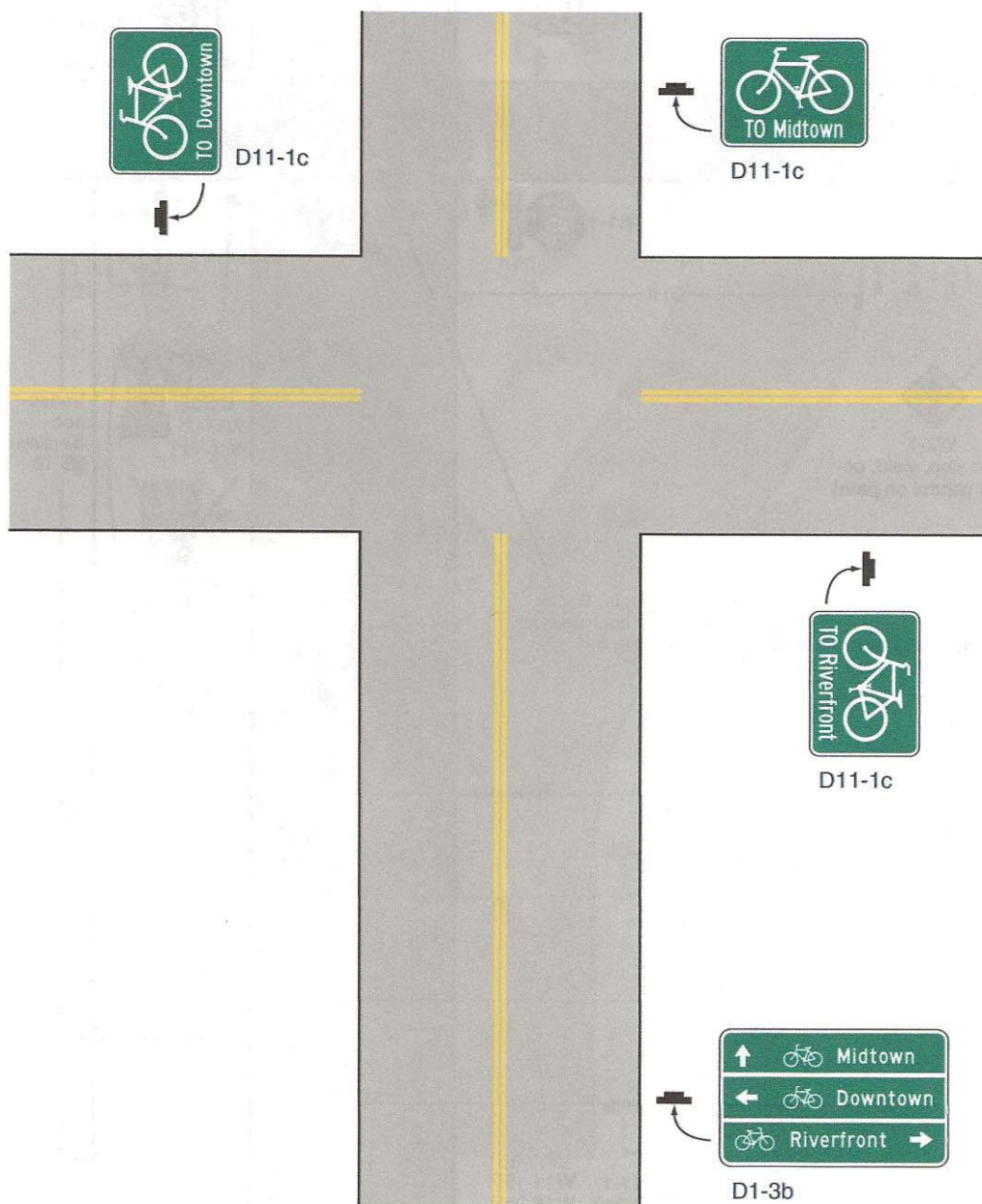
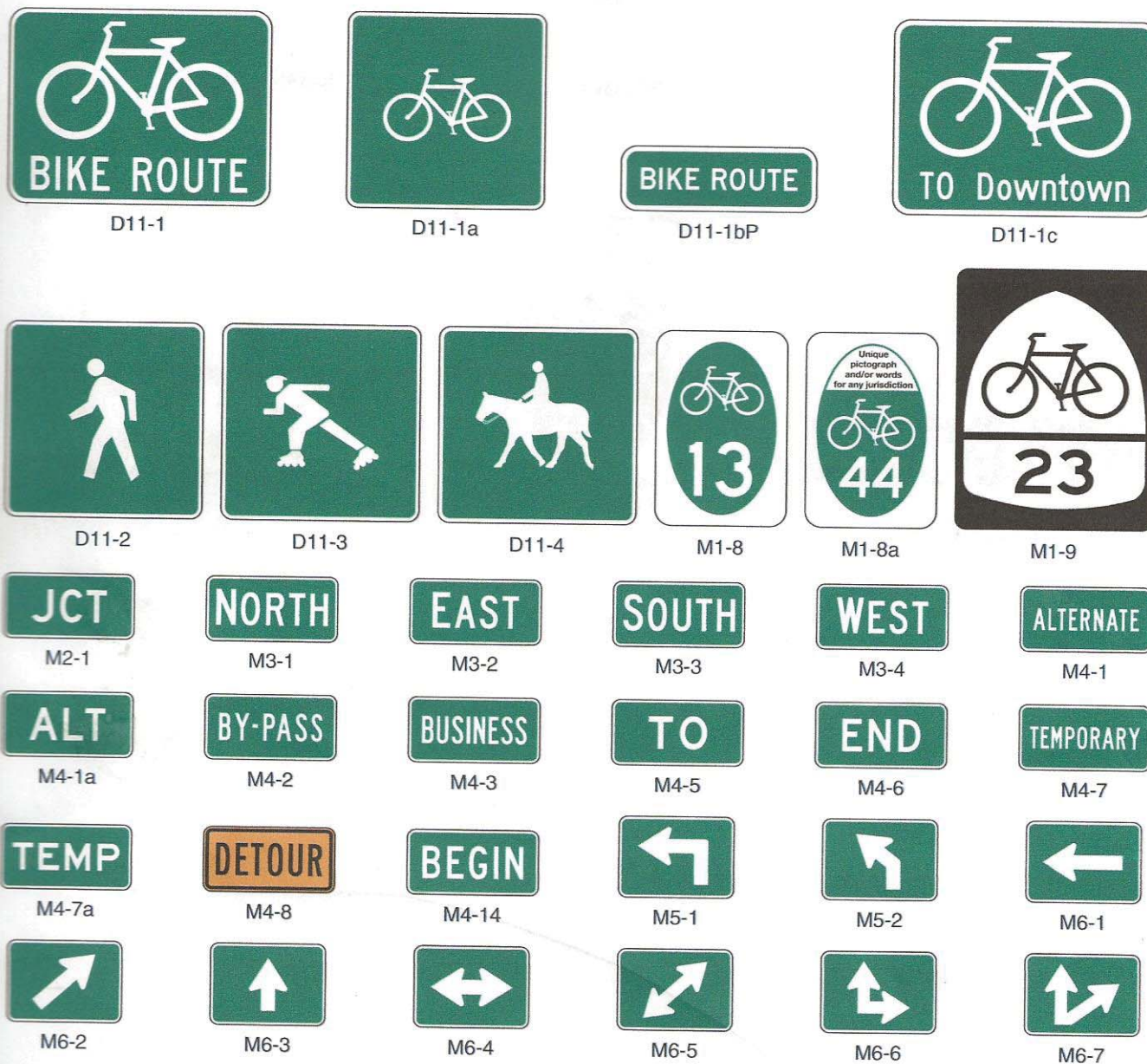


Figure 9B-4. Guide Signs and Plaques for Bicycle Facilities (Sheet 2 of 2)



Way-finding Routes - Sign Study

Route 1 - Cabrillo (Sunnyvale to San Jose via Cabrillo & Monroe)

Eastbound:

Begin: Santa Clara city limit on White Oak Lane - Begin route **sign** - southbound

Left turn onto **Poinciana** - Left turn **sign** on White Oak Lane, confirmation **sign** on Poinciana
Confirmation **signs**: **Cabrillo** after Lawrence Expwy, after Calabazas in combination with San
Tomas Aquino route, before Bowers in combination with San Tomas Aquino route,
before STACT/San Tomas Expwy

Destination **signs** for: Wilcox High School (at Calabazas), Cabrillo Middle School, STACT
(there already), Skate Park

Right turn onto **Los Padres** - right turn **sign** on Cabrillo, confirmation **sign** on Los Padres in
combination with Los Padres route

Destination **sign** for: Warburton Park

Left turn onto **Warburton** - combination **sign** on Los Padres with Los Padres route (left for
Cabrillo route, straight for Los Padres route), confirmation **sign** on Warburton

Confirmation **sign**: after Scott

Destination **signs** for: Triton Museum & Rotary Park, City Hall

Right turn onto **Monroe** - right turn **sign** on Warburton, confirmation **sign** on Monroe

Confirmation **signs**: before or after ECR, before Homestead

Destination **signs** for: senior center, Mission Library (at Lexington)

Left turn onto **Bellomy** - combination **sign** on Monroe with Monroe route (left for Cabrillo route,
straight for Monroe route), confirmation **sign** on Bellomy

Destination **sign** for: Buchser Middle School

Left turn onto **Jackson** - left turn **sign** on Bellomy, confirmation **sign** on Jackson

Right turn onto **Market** - right turn **sign** on Jackson, confirmation **sign** on Market

Confirmation **sign**: before Lafayette St

Destination **sign** for: SCU

Right turn onto **Park** - right turn **sign** on Market, confirmation **sign** on Park

Confirmation **sign**: after Bellomy

End: **Park & Idaho** - End route **sign** with through arrow for downtown San Jose

Way-finding signs: 27

Destination signs: 10

Poles needed: 0

Westbound:

Begin: **Park & Idaho** - Begin route **sign** on Park northbound.

Confirmation **sign**: after Bellomy

Destination **sign** for: SCU

Left turn onto **Market** - left turn **sign** on Park, confirmation **sign** on Market

Confirmation **sign**: after Lafayette St

Destination **sign** for: Mission Library (at Main)

Right turn onto **Monroe** - right turn **sign** on Market, confirmation **sign** on Monroe in combination with Monroe route

Confirmation **signs**: before Homestead, before or after ECR

Destination **sign** for: senior center

Left turn onto **Warburton** - combination **sign** on Monroe with Monroe route (left turn for Cabrillo route, straight for Monroe route), confirmation **sign** on Warburton

Confirmation **sign**: before or after Scott

Destination **signs** for: Triton Museum & Rotary Park, City Hall

Right turn onto **Los Padres** - right turn **sign** on Warburton, confirmation **sign** on Los Padres in combination with Los Padres route

Destination **sign** for: Warburton Park

Left turn onto **Cabrillo** - combination **sign** on Los Padres with Los Padres route (left for Cabrillo route, straight for Los Padres route), confirmation **sign** on Cabrillo.

Confirmation **signs**: after STACT/San Tomas Expwy in combination with San Tomas Aquino route, after Bowers in combination with San Tomas Aquino route, before Calabazas in combination with San Tomas Aquino route (left for San Tomas Aquino route, straight for Cabrillo route), before Lawrence Expwy

Destination **signs** for: Skate Park, STACT (there already), Cabrillo Middle School, Wilcox High School (at Calabazas)

Right turn onto **White Oak Lane** - right turn **sign** on **Poinciana**, confirmation **sign** on White Oak, End Route **sign** at Santa Clara city limit with through arrow for downtown Sunnyvale

Way-finding signs: 23

Destination signs: 10

Poles needed: 1

Route 2 - San Tomas Aquino (Bay Trail to Cupertino via STACT & Calabazas & Pomeroy & Pruneridge)

Southbound:

Begin: Junction of Bay Trail & **STACT** - Begin route **sign** - northbound (though immediately loops south)

Confirmation **signs**: after Agnew, before Monroe in combination with Agate route (right for Agate, straight for San Tomas Aquino)

Destination **signs** for: each street exit (8), golf & tennis club, convention center & light rail, game day detour, Great America, Santa Clara Square Marketplace

Right turn onto **Cabrillo** - right turn **sign** on trail, confirmation **sign** on Cabrillo in combination with Cabrillo route

Confirmation **sign**: before or after Bowers in combination with Cabrillo route

Destination **signs** for: skate park, Cabrillo middle school, Wilcox High School (at Calabazas)

Left turn onto **Calabazas** - combination **sign** on Cabrillo with Cabrillo route (left for San Tomas Aquino route, straight for Cabrillo route), confirmation **sign** on Calabazas (LH side)

Confirmation **sign**: before or after El Camino Real

Left turn onto **Pomeroy** - left turn **sign** on Calabazas, confirmation **sign** on Pomeroy

Confirmation **signs**: before or after Benton, before or after Homestead

Destination **signs** for: Pomeroy Elementary, Carmichael Park (right) & Santa Clara High (left) at Benton, Sutter Elementary, Maywood Park at Pruneridge

Right turn onto **Pruneridge** - right turn **sign** on Pomeroy, confirmation **sign** on Pruneridge

Confirmation **sign**: before or after Lawrence Expwy

Destination **sign** for: for Kaiser Hospital at Harvard Ave (note to take left at Lehigh)

End: Pruneridge & Meadow (or city line) - End route **sign** with through arrow for Cupertino

Way-finding signs: 17 (many of which are already in place)

Destination signs: 21

Poles needed: 1 (but can be paid for by Irvine?)

All right exit arrows should be 5-15 degrees off vertical

Northbound:

Begin: **Pruneridge** & Meadow (or city line) - Begin route **sign** - eastbound

Confirmation **sign**: before or after Lawrence Expwy

Destination **sign** for: for Kaiser Hospital at Harvard Ave (note to take left at Lehigh)

Left turn onto **Pomeroy** - left turn **sign** on Pruneridge, confirmation **sign** on Pomeroy

Confirmation **signs**: before or after Homestead, before or after Benton

Destination **signs** for: Maywood Park at Pruneridge, Sutter Elementary, Carmichael Park (left) & Santa Clara High (right) at Benton, Pomeroy Elementary

Right turn onto **Calabazas** - right turn **sign** on Pomeroy, confirmation **sign** on Calabazas (LH side)

Confirmation **sign**: before or after El Camino Real

Destination **sign** for: Wilcox High School (at Cabrillo)

Right turn onto **Cabrillo** - right turn **sign** on Calabazas, confirmation **sign** on Cabrillo in combination with Cabrillo route

Confirmation **sign**: before or after Bowers in combination with Cabrillo route

Destination **signs** for: skate park, Cabrillo middle school

Left turn onto **STACT** - combination **sign** on Cabrillo with Cabrillo route (left for San Tomas Aquino route, straight for Cabrillo route), confirmation **sign** on trail

Confirmation **signs**: before Monroe in combination with Agate route (left for Agate, straight for San Tomas Aquino), before or after Agnew

Destination **signs** for: each street exit (8), golf & tennis club, convention center, game day detour, Great America, Santa Clara Square Marketplace

End: Junction of Bay Trail & STACT - End route **sign** with left arrow for Alviso/Milpitas/San Jose, right arrow for Sunnyvale/Mountain View

Way-finding signs: 17 (many of which are already in place)

Destination signs: 21

Poles needed: 1 (but can be paid for by Irvine?)

All left exit arrows should be 5-15 degrees off vertical

Route 4 - Monroe (STACT to San Jose via Monroe)

Southbound:

Begin: Junction of Monroe & STACT - Begin route **sign** - eastbound (though slowly turns south)

Confirmation **signs**: before Los Padres in combination with Los Padres route (right for Los Padres route, straight for Monroe route), before or after Scott, after Warburton in combination with Cabrillo route, before or after ECR, before Homestead, before Bellomy in combination with Cabrillo route (left for Cabrillo route, straight for Monroe route)

Destination **signs** for: Triton Museum & City Hall (at Warburton) (sign exists), senior center, Mission Library (at Lexington), SCU (at Santa Clara St.), Buchser Middle School (at Bellomy), cemetery (at Jonathan St.)

End: Newhall - End route **sign** with through arrow for San Jose & West Valley Mall

Way-finding signs: 7

Destination signs: 5

Poles needed: 0

Northbound:

Begin: Newhall & Monroe - Begin route **sign** northbound on Monroe.

Confirmation **signs**: after Market in combination with Cabrillo route, before or after Homestead, before or after ECR, before Warburton in combination with Cabrillo route (left for Cabrillo route, straight for Monroe route), before or after Scott, after Los Padres in combination with Los Padres route

Destination **signs** for: Triton Museum & City Hall (at Warburton) (sign exists), senior center, Mission Library (at Lexington), SCU (at Santa Clara St.), Buchser Middle School (at Bellomy), cemetery (at Jonathan St.)

End: Junction of Monroe & STACT - End route **sign** with right & left arrows for STACT

Way-finding signs: 7

Destination signs: 5

Poles needed: 0

Route 5 - Agate (Lawrence Caltrain station to STACT Trail & Monroe via Agate Dr.)

Eastbound:

Begin: French St at Lawrence Expwy - Begin route **sign** eastbound

Left turn onto **Agate** - left turn **sign** on French, confirmation **sign** on Agate
Confirmation **sign**: before bridge over Calabazas creek

Right turn onto **Painted Rock** - right turn **sign** on Agate, confirmation **sign** on Painted Rock

Left turn onto **Chromite** - left turn **sign** on Painted Rock, confirmation **sign** on Chromite
Confirmation **sign**: after street becomes South Drive
Destination **sign** for: Bracher Park (left) & School (right) (at Alhambra)

End: **South Drive & Monroe** - End route **sign** with left arrow (or U-turn arrow) for STACT northbound, left then right arrow for STACT southbound. May need an extra **sign** or two to direct riders onto sidewalk for northbound, onto diagonal crosswalk for southbound.

Way-finding signs: 10+

Destination signs: 1

Poles needed: 5

Westbound:

Begin: **STACT Trail & Monroe** - Two Begin route **signs** - one on southbound STACT westbound, one on northbound STACT continuing northbound across intersection, then westbound

Right turn onto **South Drive** - right turn **sign** on Monroe (visible from STACT), confirmation **sign** on South Drive

Confirmation **sign**: after street becomes Chromite
Destination **sign** for: Bracher Park (right) & School (left) (at Cortez)

Right turn onto **Painted Rock** - right turn **sign** on Chromite, confirmation **sign** on Painted Rock

Left turn onto **Agate** - left turn **sign** on Painted Rock, confirmation **sign** on Agate
Confirmation **sign**: before bridge over Calabazas creek

Right turn onto **French** - right turn **sign** on Agate, confirmation **sign** on French

End: French St. at Lawrence Expwy - End route **sign** with right arrow for Lawrence Caltrain station, through arrow for Sunnyvale

FUNDING SOURCES:

Federal: DHCD: Affordable Housing and Sustainable Communities Program (*connectivity*)

State: CDPR.: Recreational Trails Program (*maintenance and new facilities for trails*)
CTC: California Active Transportation Program (*shifting trips to walking and cycling*)
Congested Corridors Program (*change travel behavior, reduce vehicle miles*)
Local Partnership Program, SB 1 (*bicycle and pedestrian improvements*)
CalTrans: Sustainable Transportation Planning Grants (*funds studies and design work*)
Highway Safety Improvement Program (*addresses safety challenges*)
CNRA: Cultural, Community, and Natural Resources Grant Program (*trail improvements*)
Urban Greening Grants (*urban trails between home, work, school, commercial*)

Local: BAAQMD:

Transportation Funds for Clean Air (*with VTA funding; reduce vehicle emissions*)
Bicycle Facilities Grant Program (*reduce vehicle emissions*)
One Bay Area Grant (*with VTA funding; projects in Priority Development Areas*)
MTC: Regional Measure 3 (*highway and transit projects*)
VTA: Measure B (*maintenance, transit, and traffic safety*)
VERBS (*vehicle emissions reduction at schools, Safe Routes to Schools program*)
TDA 3 (*transportation development*)
CSC: Traffic Impact Fee (*mitigate traffic impacts*)
Multi-modal Improvement Plan (*City Place project, improve air and transport*)

Private/Public partnerships:

Chamber of Commerce: (*programs?*)
Silicon Valley Leadership Group: (*programs ?*)

Source: Compiled from City of Santa Clara Bicycle Plan Update 2018