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**LANE TRANSIT DISTRICT
SPECIAL BOARD MEETING**

**February 21, 1996
5:30 p.m.**

**LTD BOARD ROOM
3500 E. 17th Avenue, Eugene
(off Glenwood Blvd.)**

(PUBLIC TESTIMONY WILL NOT BE HEARD AT THIS MEETING.)

A G E N D A

Page No.

I. ROLL CALL

Bailey _____ Bennett _____ Hocken _____ Kleger _____

Montgomery _____ Saydack _____ (vacancy) _____

II. CALL TO ORDER

III. WORK SESSION ON BUS RAPID TRANSIT

IV. ADJOURNMENT

Alternative formats of printed material (Braille, cassette tapes, or large print) are available upon request. A sign language interpreter will be made available with 48 hours' notice. The facility used for this meeting is wheelchair accessible. For more information, please call 741-6100 (voice) or 687-5552 (TTY, for persons with hearing impairments).

AGENDA ITEM SUMMARY

DATE OF MEETING: February 21, 1996

ITEM TITLE: BUS RAPID TRANSIT WORK SESSION

PREPARED BY: Stefano Viggiano, Planning and Development Manager

ACTION REQUESTED: None. Information only.

BACKGROUND: This work session is intended to provide an opportunity to discuss various aspects of the Bus Rapid Transit (BRT) effort. Staff will provide information on the following BRT project elements:

- Work in progress on the selection of a pilot corridor.
- The design of a year 2015 BRT system.
- Estimates of costs for pilot corridor and year 2015 system.
- BRT marketing program development.
- Communication of BRT to the community.

ATTACHMENT: None

PROPOSED MOTION: None

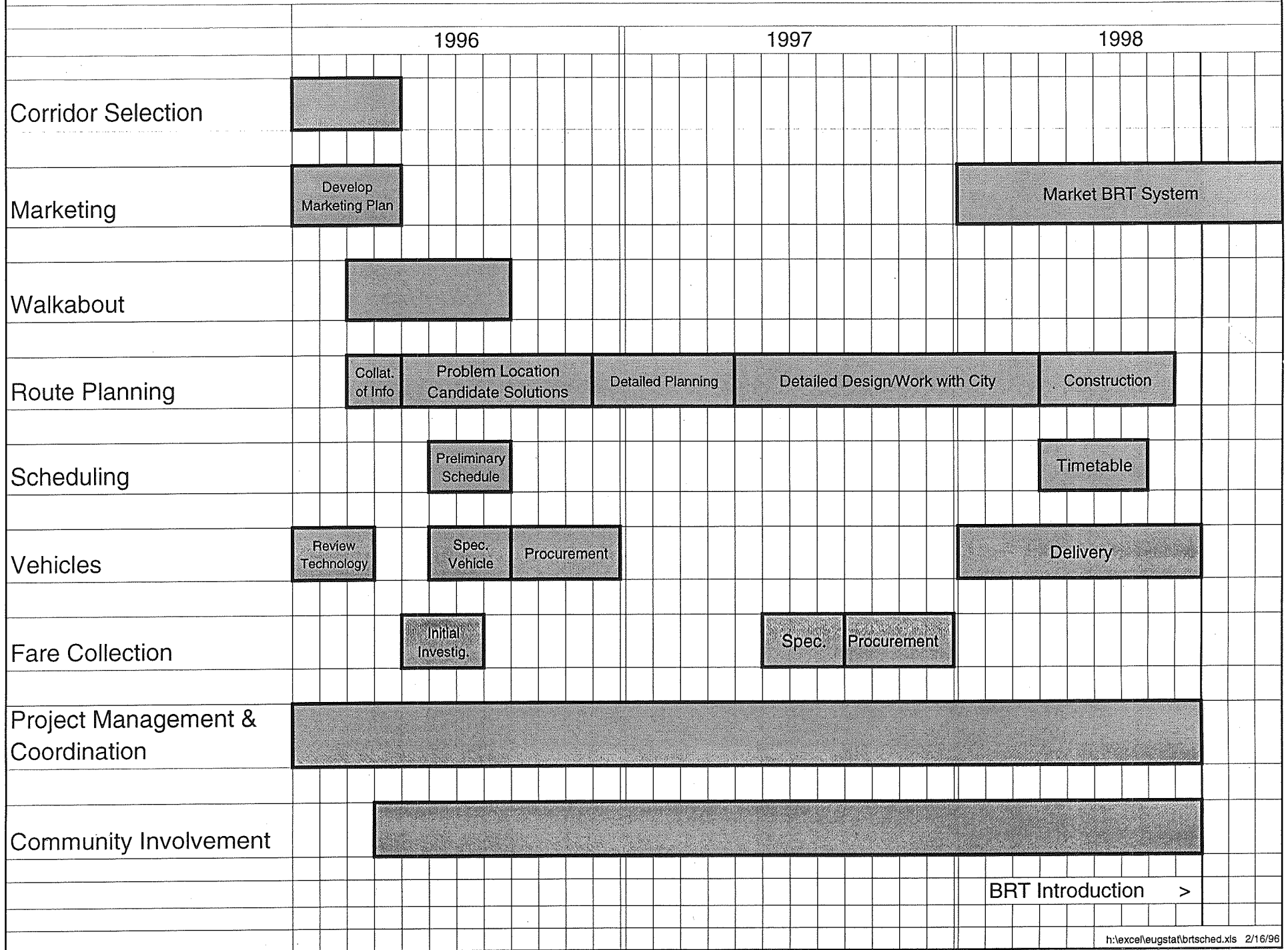
BUS RAPID TRANSIT

WORK SESSION FEBRUARY 21, 1996

- 1) Update on Pilot Corridor Selection
- 2) Year 2015 System
 - Route Structure
 - Service Level
- 3) Cost Estimates
 - Pilot Corridor Capital Costs
 - Year 2015 System Capital Costs
 - Funding Plan
- 4) Marketing Plan
 - System Name
 - Brochure
 - "Question and Answer" Document
- 5) Public Involvement/Communication Plan
 - "Walkabout"
 - Corridor contacts

RT

PILOT CORRIDOR PROJECT SCHEDULE



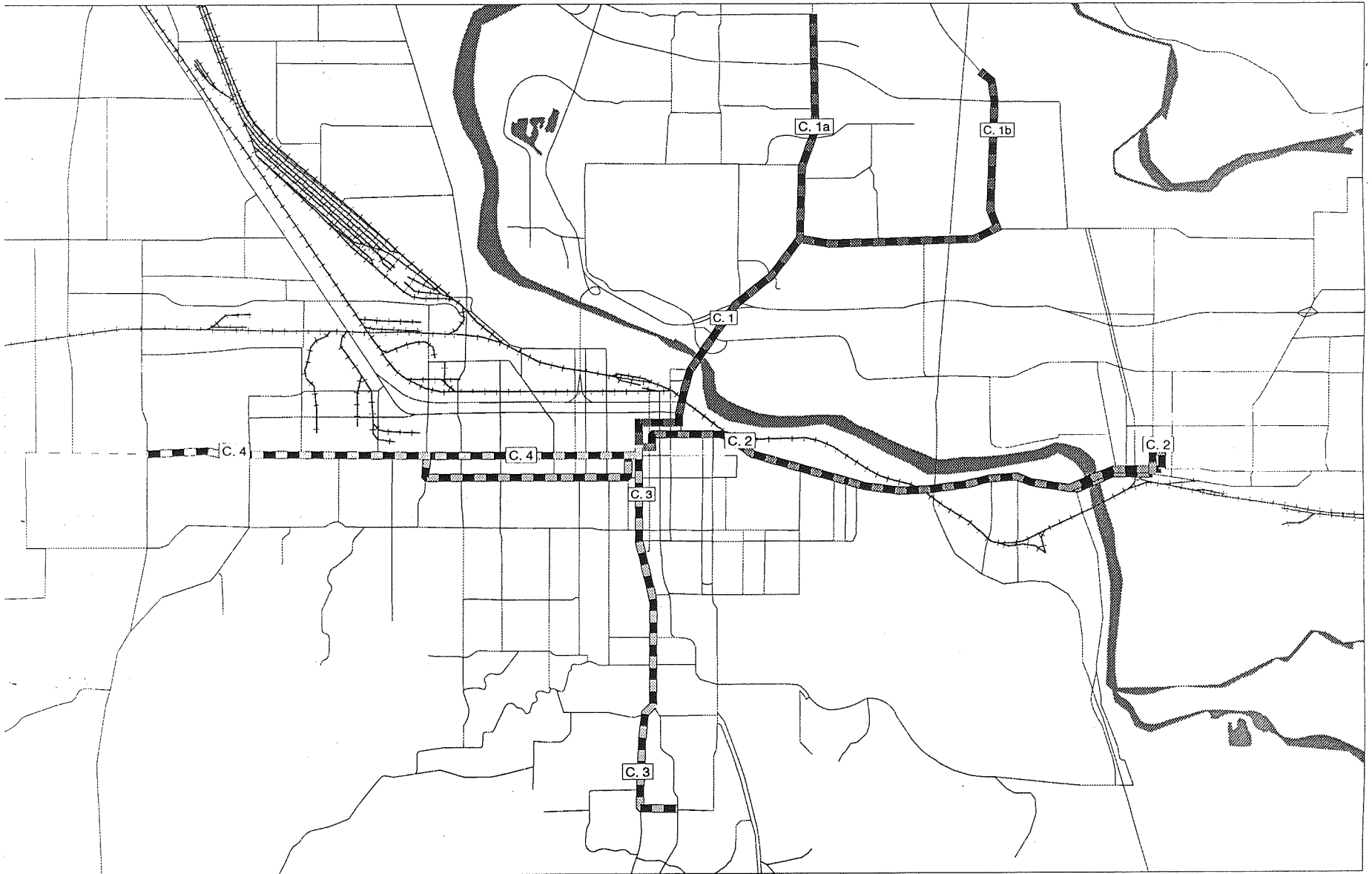
**BRT CORRIDOR SELECTION
SCREENING DATA**

| | Route (from downtown) | Ridership per day | Route Length (miles) | Riders/Mile | Travel Time Bus (minutes) | Travel Time Automobile | % Time Bus over Auto | Bus/Hr Ou Peak | Bus/Hr In. Peak | Avg Auto speed |
|----|---|----------------------|-------------------------|-------------|------------------------------|---------------------------|-------------------------|-------------------|--------------------|-------------------|
| 1a | To Gateway from Eug Sta | 1236.78 | 3.60 | 343.69 | 17 | 9 | 189 | 3 | 2 | 24 |
| 1b | To Crescent from Eug Sta | 1304.79 | 3.79 | 344.46 | 16 | 8 | 200 | 4 | 2 | 28 |
| 2 | To 19th & Marcola via Centennial | 1092.87 | 6.25 | 174.86 | 21 | 16 | 131 | 4.5 | 3 | 23 |
| 3a | To Spfld Sta. via Franklin and Main | 2217.76 | 4.02 | 552.35 | 19 | 12 | 158 | 7.5 | 6.5 | 20 |
| 3b | Spfld Sta to 54th & Main via Franklin and Main | 636.26 | 4.62 | 137.68 | 19 | 10 | 190 | 5.5 | 4.5 | 28 |
| | Total Thurston Route | 2854.02 | 8.64 | 330.47 | 38 | 22 | 173 | 7.5 | 6.5 | 24 |
| 4a | 29th and Will. via Willamette | 928.68 | 1.63 | 570.17 | 10 | 7.35 | 136 | 6.5 | 4 | 13 |
| 4b | 40th and Donald from 29th and Will | 110.51 | 1.36 | 81.04 | 7 | 7.17 | 98 | 2 | 2 | 11 |
| | Eug Sta to 40th & Don via Willamette | 1039.19 | 2.99 | 347.27 | 17 | 14.5 | 117 | 6.5 | 4 | 12 |
| 5 | West 11th to Bertelsen | 1514.13 | 3.64 | 416.39 | 17 | 11.50 | 148 | 4 | 5.5 | 19 |
| 6 | Hwy 99 to Beltline | 1201.77 | 5.72 | 210.11 | 24 | 15.45 | 155 | 4.5 | 4 | 22 |
| 7 | River Road to Beltline | 1583.13 | 4.81 | 329.09 | 19 | 12.37 | 154 | 7 | 4 | 23 |

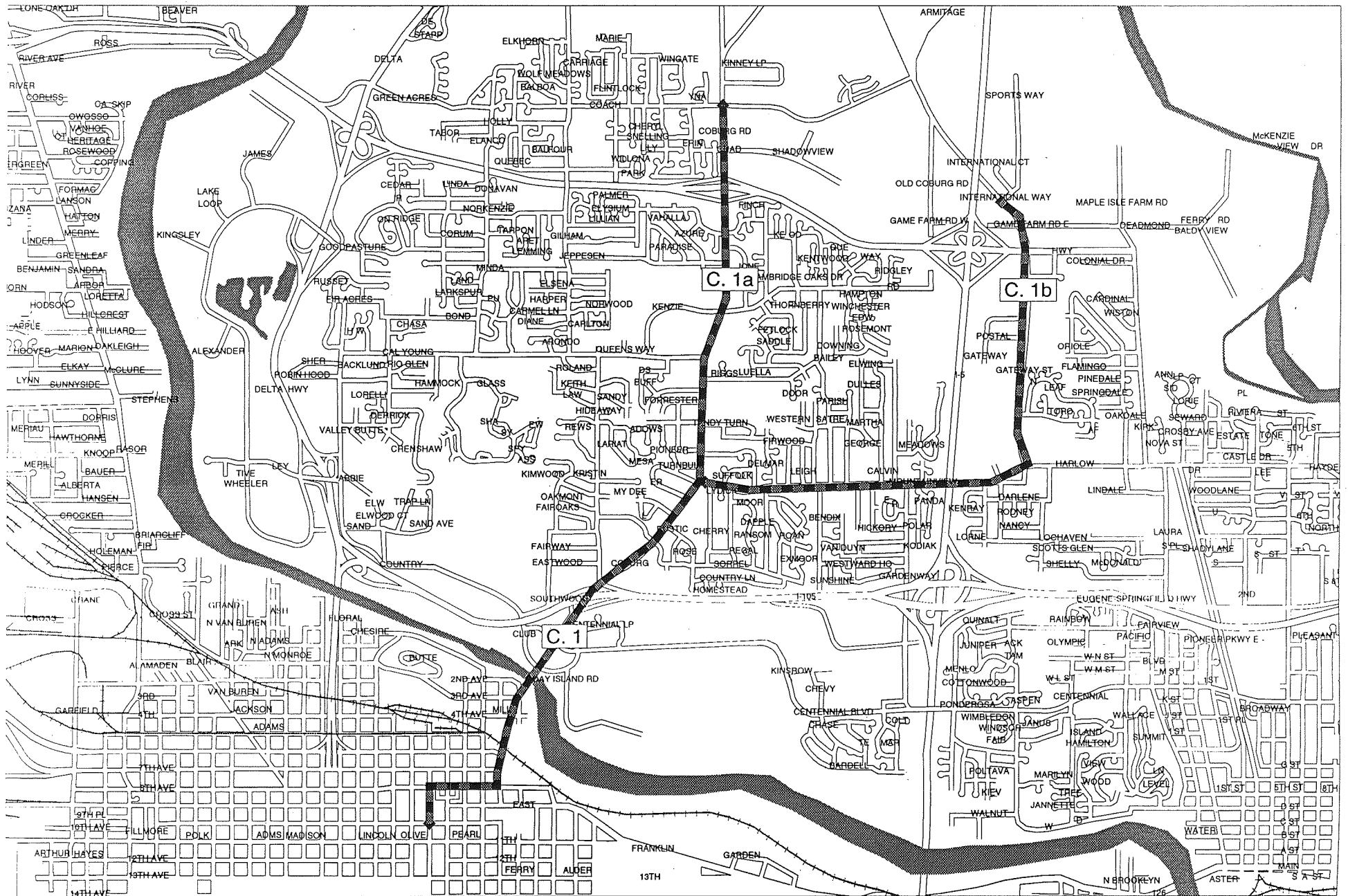
BRT PILOT CORRIDOR Secondary Screening Criteria

| Criteria | Information Source |
|---|---|
| 1. Major Activity Centers Education facilities Medical and Health Services Proximity to shopping centers | |
| 2. Plan Designations for key locations in corridor | MetroPlan |
| 3. Assessment of Transit Priority Potential traffic mgmt. issues - re-routing queue jumping - software issues jurisdiction over signals (ODOT/glenwood section) existing signalization in corridor existing unused R-O-W comment from Eugene Traffic - implementation potential | City of Eugene Gary Ludeke, City of Eugene City of Eugene |
| 4. Roadway size - # of existing lanes | |
| 5. # of LUM nodes | LUM Map |
| 6. Demographics - pop/empl | LCOG |
| 7. Five Year DIpt Potential | qualitative assessment |
| 8. Travel time by Auto (am/pm peak, midday) | timing tests |
| 9. Travel time by bus (am/pm peak, midday) | timing tests |
| 10. current ridership | apc data |

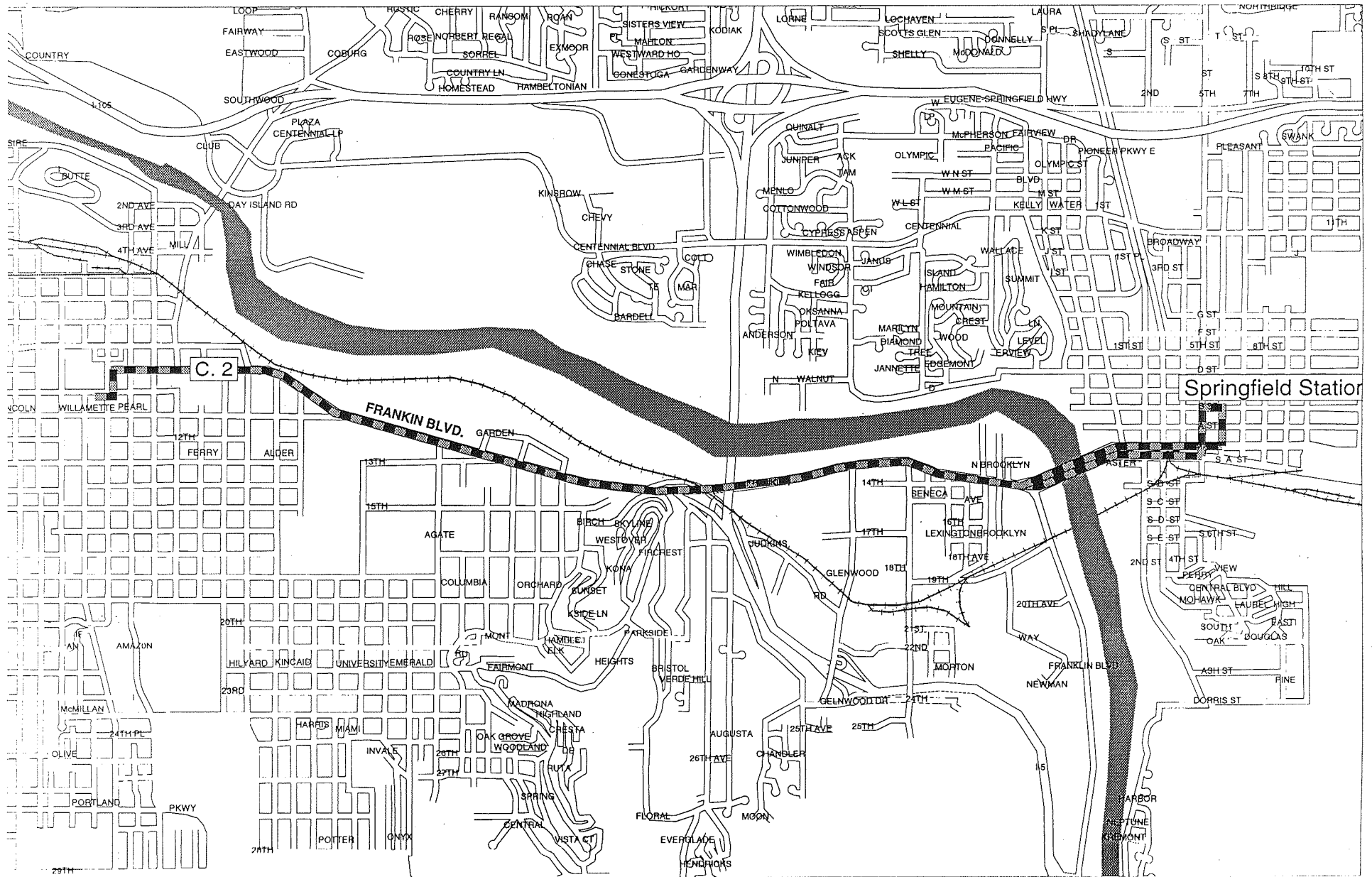
Bus Rapid Transit 4 Corridor options



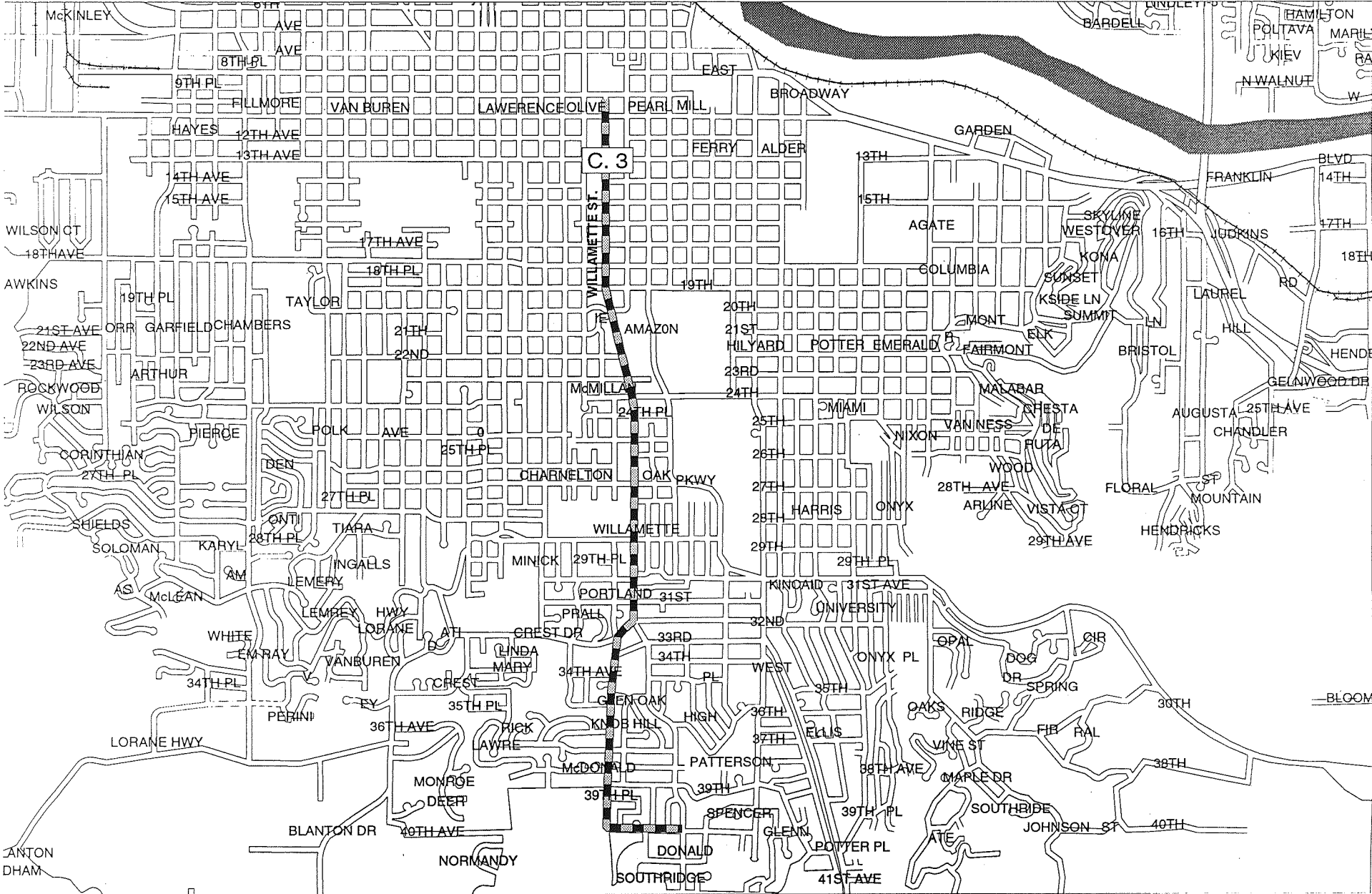
BRT Corridor 1a,b



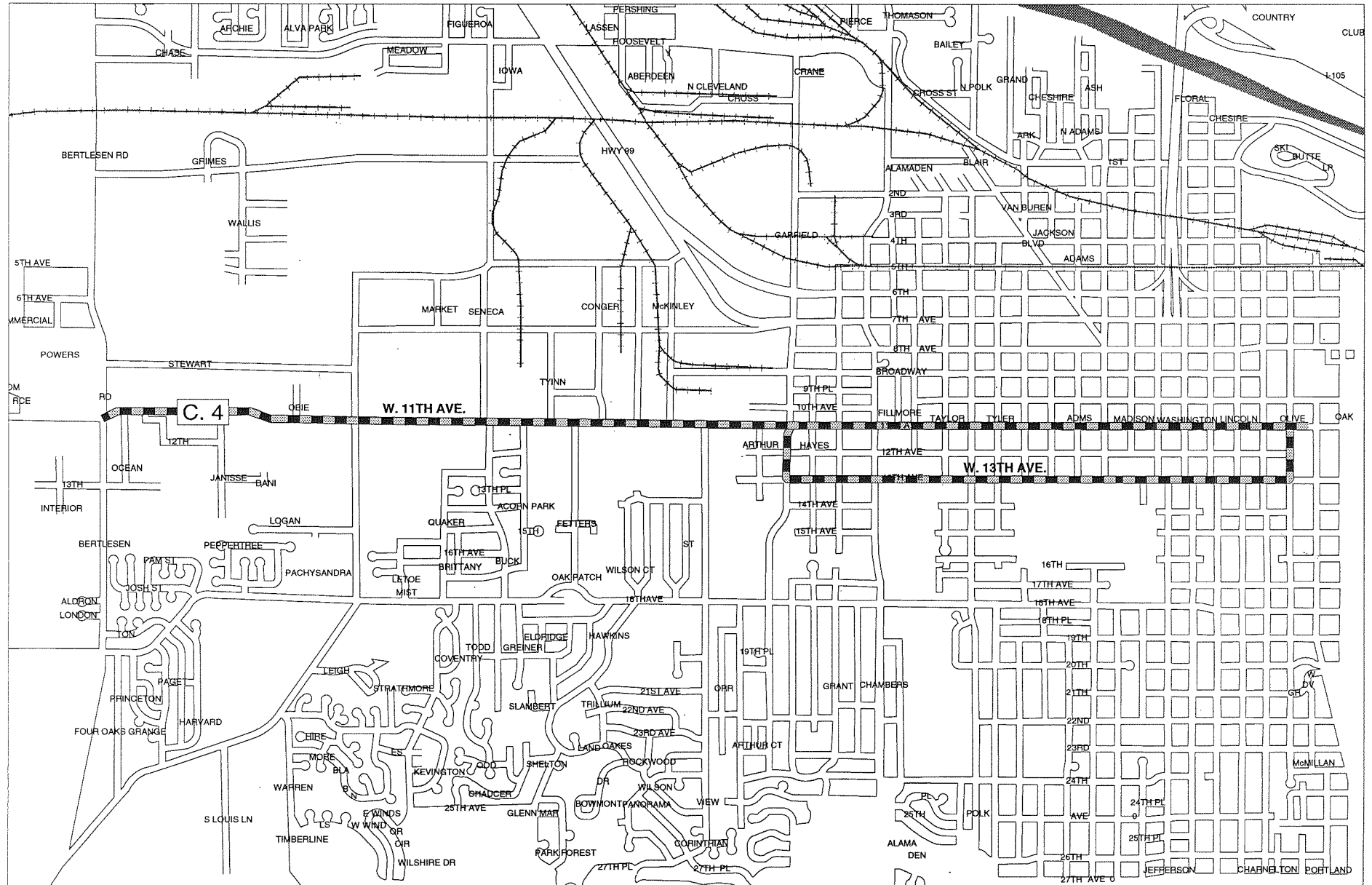
BRT Corridor 2



BRT Corridor 3



BRT Corridor 4



BRT System 2015

| Route | Distance | Average | Hours/ | Peak | | Midday | | Morning/Evening | | Service | |
|----------------------|----------|---------|--------|--------|-------|--------|-------|-----------------|-------|---------------|------|
| | Miles | Speed | Trip | Bus/hr | Hours | Bus/hr | Hours | Bus/hr | Hours | Hours | |
| BRT LINES | | | | | | | | | | | |
| Green | 27.7 | 18 | 1.54 | 6 | 5.5 | 6 | 6 | 3 | 8.5 | 145.6 | |
| Red | 16.5 | 18 | 0.92 | 6 | 5.5 | 6 | 6.0 | 3.0 | 8.5 | 86.5 | |
| Yellow | 18.6 | 18 | 1.03 | 6 | 5.5 | 6 | 6.0 | 3.0 | 8.5 | 97.6 | |
| Purple | 21.8 | 18 | 1.21 | 6 | 5.5 | 6 | 6.0 | 3.0 | 8.5 | 114.5 | |
| Blue | 57.3 | 24 | 2.39 | 6 | 5.5 | 6 | 6.0 | 3.0 | 8.5 | 225.7 | |
| BRT TOTAL | | | | | | | | | | 669.9 | |
| FEEDER ROUTES | | | | | | | | | | | |
| Pink | 4.8 | 10 | 0.5 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 32.5 | |
| 2 | 3.2 | 10 | 0.3 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 21.9 | |
| 3 | 3.9 | 10 | 0.4 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 26.3 | |
| 4 | 6.5 | 10 | 0.7 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 44.3 | |
| 5 | 2.7 | 10 | 0.3 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 18.5 | |
| 6 | 3.9 | 10 | 0.4 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 26.3 | |
| 7 | 3.9 | 10 | 0.4 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 26.3 | |
| 8 | 7.5 | 10 | 0.7 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 50.7 | |
| 9 | 5.2 | 10 | 0.5 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 35.0 | |
| 10 | 2.2 | 10 | 0.2 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 14.9 | |
| 11 | 3.1 | 10 | 0.3 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 21.1 | |
| Yellow | 6.4 | 10 | 0.6 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 43.3 | |
| 2 | 7.2 | 10 | 0.7 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 49.2 | |
| 3 | 3.5 | 10 | 0.3 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 23.7 | |
| 4 | 6.4 | 10 | 0.6 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 43.8 | |
| 5 | 3.2 | 10 | 0.3 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 21.9 | |
| 6 | 4.7 | 10 | 0.5 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 31.7 | |
| 7 | 3.3 | 10 | 0.3 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 22.7 | |
| Green | 2.7 | 10 | 0.3 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 18.3 | |
| 2 | 2.8 | 10 | 0.3 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 19.1 | |
| 3 | 3.7 | 10 | 0.4 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 25.0 | |
| 4 | 4.1 | 10 | 0.4 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 27.8 | |
| 5 | 2.3 | 10 | 0.2 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 15.5 | |
| 6 | 3.8 | 10 | 0.4 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 25.8 | |
| 7 | 2.0 | 10 | 0.2 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 13.4 | |
| Orange | 1.6 | 10 | 0.2 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 10.6 | |
| 2 | 2.2 | 10 | 0.2 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 14.9 | |
| 3 | 1.6 | 10 | 0.2 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 11.1 | |
| 4 | 2.6 | 10 | 0.3 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 17.8 | |
| Purple | 1.7 | 10 | 0.2 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 11.3 | |
| 2 | 2.1 | 10 | 0.2 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 14.2 | |
| 3 | 3.3 | 10 | 0.3 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 22.7 | |
| 4 | 3.0 | 10 | 0.3 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 20.1 | |
| 5 | 3.9 | 10 | 0.4 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 26.8 | |
| 6 | 2.8 | 10 | 0.3 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 19.1 | |
| 7 | 3.2 | 10 | 0.3 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 21.9 | |
| 8 | 2.3 | 10 | 0.2 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 15.7 | |
| 9 | 2.2 | 10 | 0.2 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 14.7 | |
| 10 | 2.8 | 10 | 0.3 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 19.1 | |
| 11 | 3.9 | 10 | 0.4 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 26.5 | |
| 12 | 5.3 | 10 | 0.5 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 35.8 | |
| Turquoise | 1 | 6.4 | 10 | 0.6 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 43.8 |
| 2 | 2.7 | 10 | 0.3 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 18.0 | |
| 3 | 3.9 | 10 | 0.4 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 26.3 | |
| 4 | 2.5 | 10 | 0.2 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 16.7 | |
| 5 | 2.7 | 10 | 0.3 | 6 | 5.5 | 3 | 6 | 2 | 8.5 | 18.3 | |
| Blue | 3.7 | 10 | 0.4 | 6 | 5.5 | 3 | 6 | 3 | 8.5 | 28.4 | |
| 2 | 3.7 | 10 | 5.1 | 6 | 5.5 | 3 | 6 | 3 | 8.5 | 390.2 | |
| 3 | 3.7 | 10 | 15.2 | 6 | 5.5 | 3 | 6 | 3 | 8.5 | 1162.8 | |
| FEEDER TOTAL | | | | | | | | | | 1152.5 | |

BRT System 2015

| Route | Miles | Average | Hours/ | Peak | | Midday | | Morning/Evening | | Service |
|--------------------------|-------|---------|--------|--------|-------|--------|-------|-----------------|-------|--------------|
| | | Speed | Trip | Bus/hr | Hours | Bus/hr | Hours | Bus/hr | Hours | Hours |
| NON-BRT ROUTES | | | | | | | | | | |
| #35 W. 11th/UC | 10.2 | 12 | 0.8 | 2 | 5.5 | 2 | 6 | 1 | 8.5 | 26.7 |
| #27 Fairmount | 1.4 | 12 | 0.1 | 2 | 5.5 | 2 | 6 | 1 | 8.5 | 3.6 |
| #28 Amazon Loop | 8.9 | 12 | 0.7 | 2 | 5.5 | 2 | 6 | 1 | 8.5 | 23.5 |
| #60 VRC | 8.1 | 12 | 0.7 | 2 | 5.5 | 2 | 6 | 1 | 8.5 | 21.4 |
| #77 UC/Bertelson | 10.1 | 12 | 0.8 | 2 | 5.5 | 2 | 6 | 1 | 8.5 | 26.4 |
| #91 X Thurston | 19.4 | 12 | 1.6 | 2 | 5.5 | 2 | 6 | 1 | 8.5 | 50.9 |
| WEP X -W. Eugene Express | 11.2 | 12 | 0.9 | 2 | 5.5 | 2 | 6 | 1 | 8.5 | 29.4 |
| 23 Fox Hollow | 11.7 | 12 | 1.0 | 2 | 5.5 | 2 | 6 | 1 | 8.5 | 30.6 |
| C1 -Dwntwn. Circ. | 3.3 | 12 | 0.3 | 6 | 5.5 | 6 | 6 | 2 | 8.5 | 23.9 |
| NON-BRT TOTAL | | | | | | | | | | 236.5 |

| | |
|---------------------|---------------|
| System Total | 2058.9 |
|---------------------|---------------|

SYSTEM FREQUENCY

| | PEAK | MIDDAY | EVE |
|------------------|-------------|---------------|------------|
| BRT Lines | 10 min | 10 min | 20 min |
| Connector | 10 min | 20 min | 30 min |
| Other | 30 min | 30 min | 60 min |

BRT PILOT CORRIDOR COST ESTIMATE

Buses

| | |
|-------------------------------|--------------|
| Estimated 2-way route mileage | 18 |
| Route Time (hours/trip) | 1.1 |
| Bus trips per day | 84 |
| Buses needed | 7 |
| Spares | 2 |
| Cost per bus | \$ 350,000 |
| Total bus cost | \$ 3,150,000 |

Stations/Stops

| | |
|---------------------|--------------|
| Stops per mile | 4 |
| Cost per stop | \$ 30,000 |
| Number of stops | \$ 72 |
| Stop cost for route | \$ 2,160,000 |

Signal priority system

| | |
|---------------------------|------------|
| cost per bus | \$ 5,000 |
| Cost for BRT buses | \$ 45,000 |
| Support hardware/software | \$ 200,000 |
| Total system cost | \$ 245,000 |

Right of way costs

| | |
|---|--------------|
| Percent exclusive | 10% |
| Length exclusive (miles) | 1.8 |
| Cost per mile (10 foot strip, \$15/sq ft) | \$ 792,000 |
| Construction cost per mile (\$10/sq ft) | \$ 528,000 |
| Cost for R/W | \$ 2,376,000 |

Park and Rides

| | |
|------------------------|--------------|
| Number | 2 |
| Cost per park and ride | \$ 1,000,000 |
| Total cost | \$ 2,000,000 |

Fare Collection System

| | |
|-----------------|--------------|
| Per stop cost | \$ 20,000 |
| Number of stops | 72 |
| Total system | \$ 1,440,000 |

Staff/Consulting Services

| | |
|--|------------|
| Staff (2 staff for 3 years) | \$ 300,000 |
| Consultants (Engineering, real estate) | \$ 200,000 |
| Total for Staff/Consultants | \$ 500,000 |

| | |
|-------------------|---------------------|
| TOTAL COST | \$ 9,711,000 |
|-------------------|---------------------|

BRT COMPLETE SYSTEM

Buses

| | |
|-------------------------------|---------------|
| Estimated 2-way route mileage | 145 |
| Bus trips per day per route | 90 |
| Buses needed | 44 |
| Spares | 9 |
| Cost per bus | \$ 350,000 |
| Total bus cost | \$ 18,270,000 |

Stations/Stops

| | |
|---------------------|---------------|
| Stops per mile | 3.5 |
| Cost per stop | \$ 30,000 |
| Number of stops | \$ 508 |
| Stop cost for route | \$ 15,225,000 |

Signal priority system

| | |
|---------------------------|------------|
| cost per bus | \$ 5,000 |
| Cost for BRT buses | \$ 261,000 |
| Support hardware/software | \$ 200,000 |
| Total system cost | \$ 461,000 |

Right of way costs

| | |
|--|---------------|
| Percent exclusive | 33% |
| Length exclusive (miles) | 47.85 |
| Acq. cost per mile (11 foot strip, \$15/sq ft) | \$ 871,200 |
| Construction cost per mile (\$10/sq ft) | \$ 580,800 |
| Cost for R/W | \$ 69,478,200 |

Park and Rides

| | |
|------------------------|--------------|
| Number | 8 |
| Cost per park and ride | \$ 1,000,000 |
| Total cost | \$ 8,000,000 |

Fare Collection System

| | |
|-----------------|---------------|
| Per stop cost | \$ 20,000 |
| Number of stops | 508 |
| Total system | \$ 10,150,000 |

| | |
|-------------------|-----------------------|
| TOTAL COST | \$ 106,359,200 |
|-------------------|-----------------------|

Questions and Answers about Bus Rapid Transit

Q: What is BRT?

A:

Q: Why is a BRT system a good idea for the Eugene/Springfield community?

A:

Q: If BRT is such a good idea, why haven't more communities tried it?

A:

Q: What about rail? Are we facing a choice between rail and BRT?

A:

Q: How quickly will the BRT system be implemented?

A:

Q: How much will transit ridership increase with a BRT system?

A:

Q: How are the BRT routes selected?

A:

Q: How much will a BRT system cost?

A:

Q: How will BRT be paid for?

A: