# City of Ashland
## TRANSPORTATION COMMISSION
### Subcommittee Meeting
**February 4, 2010**
**Lithia Room, 51 Winburn Way**

## Agenda

I. CALL TO ORDER: 9:00 AM

II. ACTION ITEMS

1. Grandview Drive Request for Sidewalks
2. Report on Ashland Village Subdivision Traffic Study
3. Proposed Reduction in On-Street Parking Dimensions (Brent Thompson)
4. Install Diagonal Parking on 'B' Street (Brent Thompson)
5. Recommend TC Recommend to Council a Goal of Easement Acquisition Adjacent to the Railroad (Brent Thompson)
6. Establishment of a Crosswalk on Ashland Street @ YMCA Way (Brent Thompson)

III. ADJOURN:

Note for sub-committee members: Please contact Nancy Slocum at 552-2420 or slocumn@ashland.or.us if you can not attend the meeting.

*In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Public Works Office at 488-5587 (TTY phone number 1 800 735 2900). Notification 48 hours prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility to the meeting (28 CFR 35.102-35.104 ADA Title I).*

# Memo

CITY OF ASHLAND

Date: January 27, 2010
From: James Olson
To: Transportation Commission Subcommittee
Re: PETITION TO CONSTRUCT SIDEWALKS ON GRANDVIEW DRIVE

QUESTION
Will the sub-committee review the attached petition calling for the construction of a pedestrian way on Grandview and make a recommendation to the Transportation Commission?

STAFF RECOMMENDATION
To provide the action requested on the attached petition would require a major construction effort which would most likely involve the formation of a Local Improvement District (LID) to fund the construction. Staff recommends that this issue be submitted to the full commission and that all petitioners and owners be notified by mail of the meeting.

BACKGROUND
Previous Actions
In November 2009, the subcommittee considered a similar request and elected to designate Grandview Drive as a shared roadway to provide a safer area for pedestrians.

Some area owners feel that this is not adequate and that sidewalks or paths must be constructed to provide the necessary protection. The information from the November meeting is attached.

Physical Constraints
The right of way of Grandview Drive is not of uniform width and is very narrow; in some places only 23 to 30 feet wide. Any additional widening would require extensive right of way acquisitions. Since Grandview Drive traverses a very steep hillside and widening would require major retaining wall construction which would constitute a large portion of the construction budget. It would also be necessary to construct drainage improvements along the entire street. The existing street surface is a temporary chip seal which would not withstand the construction traffic and would need to be replaced with a standard pavement further increasing the cost. A rough estimate of the cost of adding sidewalks on one side of the street is shown on the attached sheet.

Other Options

- One-Way Designation

  Designating Grandview Drive as a one-way traffic pattern would allow a single lane of traffic to be narrowed enough to provide for a pedestrian way to be delineated on one side of the street.

Unfortunately a one-way pattern would not be convenient to most owners since the alternative routes are not closely adjacent. The one-way street may also increase traffic speeds and would be objectionable for emergency vehicle responses

- Shared Roadway

The shared roadway seems to be the least objectionable of the options, but provides the lease amount of protection.

CONCLUSION

Due to the number of the petition signatures and the widespread interest this issue might best be presented to the full commission where a large audience can be accommodated.

## GRANDVIEW DRIVE SIDEWALK CONSTRUCTION
## PRELIMINARY ESTIMATE
## January 26, 2010

| Item No. | Item Description | Quantity | | Unit Cost | Amount |
|---|---|---|---|---|---|
| 1 | Mobilization | Lump Sum | | $ 45,000.00 | $ 45,000.00 |
| 2 | Clearing | Lump Sum | | $ 25,000.00 | $ 25,000.00 |
| 3 | Excavation | 1200 | CY | $ 25.00 | $ 30,000.00 |
| 6 | Construct concrete curb (one side) | 2200 | LF | $ 12.00 | $ 26,400.00 |
| 7 | Construct 12" storm drain | 1700 | SF | $ 45.00 | $ 76,500.00 |
| 8 | Construct curb inlets | 8 | EA | $ 1,000.00 | $ 8,000.00 |
| 9 | Aggregate Base | 2000 | CY | $ 65.00 | $ 130,000.00 |
| 10 | A.C. Pavement | 1200 | Tons | $ 125.00 | $ 150,000.00 |
| 11 | Concrete Sidewalk | 11000 | SF | $ 7.00 | $ 77,000.00 |
| 12 | Retaining walls | 12000 | SF | $ 30.00 | $ 360,000.00 |
| 13 | Utility adjustments | Lump Sum | | $ 10,000.00 | $ 10,000.00 |
| 15 | Traffic control | Lump Sum | | $ 20,000.00 | $ 20,000.00 |
| 16 | Erosion control | Lump Sum | | $ 5,000.00 | $ 5,000.00 |
| | | | | TOTAL | $ 962,900.00 |
| | | | | 10% Contingency | $ 96,290.00 |
| | | | | Engineering | $ 175,000.00 |
| | | | | ROW Acquisition | $ 75,000.00 |
| | | | | PROJECT TOTAL | $ 1,309,190.00 |

January 13, 2010

Attn: Mike Faught
City of Ashland Director of Public Works
Fax 541-488-6006
Fax 3 pages total

Re: Grandview Drive pedestrian safety

From Mona McArdle
352 Grandview Drive
Ashland, OR 97520
Home 541 -- 488 -- 5208
Cell 541-531-9321

Petition Of Interest Regarding Pedestrian Safety On Grandview Drive.

We the undersigned are residents of the neighborhood above Grandview Drive are concerned about pedestrian safety on Grandview Dr. between Sunnyview, and Scenic. Of the three streets that provide access to this neighborhood (Strawberry, Grandview, and Wimer), Grandview is the most heavily used by pedestrians because it is less steep, and it is a more direct route up and down the hill. Increased neighborhood development and traffic, and increased pedestrian use by residents within and outside of the neighborhood, is creating a pedestrian safety problem on Grandview. We would like to see if sidewalks or a pedestrian safe shoulder could be added.

This form was circulated by Mona McArdle 352 Grandview Drive, 488-5208, and Jennifer Croyle, 225 Sunnyview Dr. 488-2422

| Name (Print) | Address | Phone | Signature |
|---|---|---|---|
| MONA McArdle | 352 Grandview Dr | 488-5208 | M McArdle M.D. |
| Dan Fellman | 352 Grandview Dr | 488-5208 | [signature] |
| Philip Newman | 270 Sunnyview St | 488-7795 | Philip L. Newman |
| Jaye DelCarlo | 400 Sunshine Circle | 4884910 | Jaye DelCarlo |
| DAVE EVANS | 430 SUNSHINE CIRCLE | 482-5748 | D.A. Evans |
| Karen Evans | 430 Sunshine Circle | 482 5748 | K Evans |
| Steve Daneman | 250 Sunnyview St | 488-2232 | [signature] |
| Travis Cooley | 230 Sunnyview st | 941-1954 | [signature] |
| Peter Croyle | 225 Sunnyview Dr | 488 2422 | [signature] |
| Jennifer Croyle | 225 Sunnyview | 488 2422 | Jennifer Croyle |
| Nicola D. Stroo | 300 Skycrest Drive | 488-3583 | Nicola D. Stroo |
| Richard Anderson | 315 Skycrest Dr | 552 9104 | [signature] |
| | | | |
| | | | |

Petition Of Interest Regarding Pedestrian Safety On Grandview Drive.

We the undersigned are residents of the neighborhood above Grandview Drive are concerned about pedestrian safety on Grandview Dr. between Sunnyview, and Scenic. Of the three streets that provide access to this neighborhood (Strawberry, Grandview, and Wimer), Grandview is the most heavily used by pedestrians because it is less steep, and it is a more direct route up and down the hill. Increased neighborhood development and traffic, and increased pedestrian use by residents within and outside of the neighborhood, is creating a pedestrian safety problem on Grandview. We would like to see if sidewalks or a pedestrian safe shoulder could be added.

This form was circulated by Mona McArdle 352 Grandview Drive, 488-5208, and Jennifer Croyle, 225 Sunnyview Dr. 488-2422

| Name (Print) | Address | Phone | Signature |
|---|---|---|---|
| RON BOLSTAD | 481 THORNTON WAY | 488-3593 | [signature] |
| Erica Barton | 435 Grandview Dr | 415 548.8488 | [signature] |
| Geraldine Anderson | 435 Grandview Dr. | 552-9707 | [signature] |
| Janice Tacconi | 436 Grandview Dr. | 482-2823 | [signature] |
| Paul Rostykus | 436 Grandview Drive | 482-2823 | [signature] |
| Molly McKissick | 509 Grandview | 482 0253 | [signature] |
| John Owen | 500 Grandview | 541-552-0522 | [signature] |
| | | | |
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| | | | |

Thank You

Jennifer Croyle

From: jen [mailto:jen@petesgourmet.com]
Sent: Sunday, July 12, 2009 5:39 PM
To: 'olsonj@ashland.or.us'
Subject: Grandview Safety

Dear Mr. Olson,

My name is Jennifer Croyle. My address is: 225 Sunnyview, Ashland.

I stopped by the City Works building the other day to discuss my serious safety concerns regarding Grandview Drive and was asked to e-mail you with those concerns.

As you know, Ashland is very much a walking community. My family and neighbors and I imagine many of the residents in our area, have major safety concerns while walking on Grandview either on our way to or back from anywhere in Ashland.

I would like to take this opportunity to list all of my safety concerns and some suggestions I have to minimize those concerns.

*Grandview Dr. is a very narrow road with no side walks.
*It is very curvy, with blind curves.
*There is a steep hill up on one side of the street and a steep drop on the other, making it almost impossible to get out of the way of an on-coming car.
*It is not uncommon for cars to be going approx 40-45 MPH up and down Grandview.

This road is the only way down when traveling north. It is used by people of all ages; older people, families and young teens, especially in the summer time. I frequently see 10 to 15 year olds walking to the (i.e.) reservoir via Grandview.

First off, I would like to propose that 2 to 3 low profile (to not impede bicyclists) speed bumps be placed throughout Grandview Drive. This would have the most dramatic safety affect for the pedestrians using Grandview Drive. The other suggestions I have are to place signs, not necessarily in order of importance, along Grandview: Posted speed signs (there are none)

Watch for Pedestrians

Watch for Children/Children at Play

Due to the fact that the street design does not give a pedestrian any way of getting out of harms way, I feel it is important to act before there is a life threatening incident.

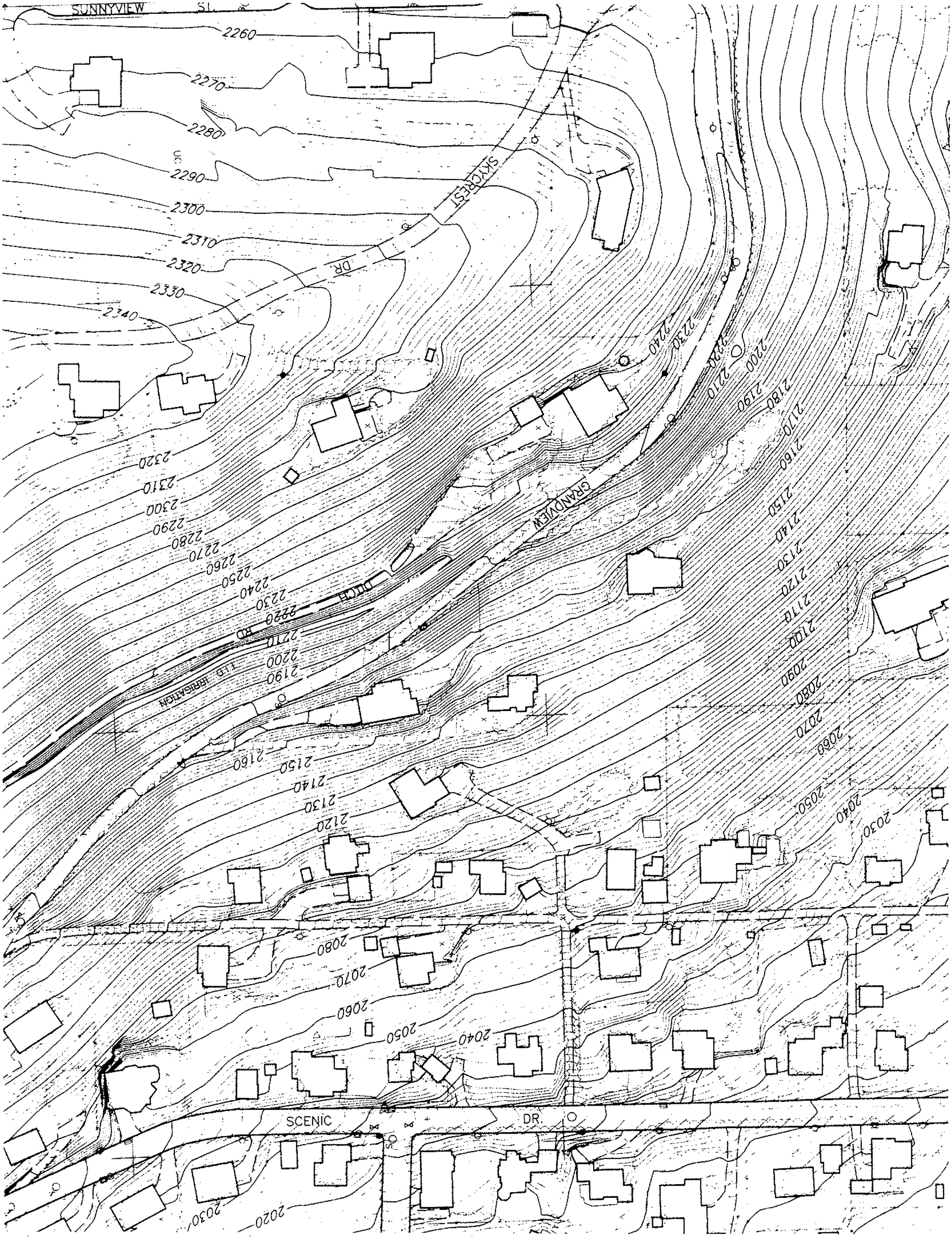
Thank you very much for your time and I look forward to hearing from you.

Sincerely,

Jennifer Croyle
541 488 2422 home
541 326 2822 cell

Glenview Dr


STOP
15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# Memo

CITY OF
ASHLAND

Date: January 27, 2010

From: James Olson

To: Transportation Commission Subcommittee

Re: UPDATE OF ASHLAND VILLAGE SUBDIVISION TRAFFIC STUDY

For the past several years, Staff has received numerous complaints of speeding and/or excessive traffic within the Ashland Village Subdivision. Several studies have been done in the past to try to assess the traffic volumes and speeds in the area. They have shown that speeds and volumes are both very moderate.

We recently completed another study which confirms the previous studies and indicates that traffic volumes and speed is still well below expected norms. Data from the most recent study completed on January 13, 2010 is as follows:

| Village Square Dr (most northerly section) | |
|---|---|
| Average Daily Trips (ADT) | 248 Vehicles per Day |
| Average Speed | 15.5 mph |
| 85% Speed | 18.7 mph |
| Highest Recorded Speed | 27.1 mph |

Previous studies indicated the following (2001):

| | |
|---|---|
| ADT | 240 Vehicles per Day |
| Average Speed | 17.1 mph |
| 85% Speed | 21.0 mph |
| Highest Speed | 26.5 mph |

CONCLUSION

The results of the studies continue to indicate that this subdivision has the lowest speeds of any subdivision in Ashland and the traffic volumes have not significantly increased. All intersections appear to be functioning well and there are no noted safety defects. Staff recommends no further action be taken on this matter.

**ENGINEERING DIVISION**
20 E. Main Street
Ashland OR 97520
www.ashland.or.us

Tel: 541/488-5347
Fax: 541/488-6006
TTY: 800/735-2900

**TimeMark Incorporated**

City of Ashland Public Works/Engineering Department

Transportation Commission Report

Village Squa : -
Village Gree : to
Village Park :

Site: Trans Comm -
Wednesday, 1/6/2010, 10:12:12 AM -
Wednesday, 1/13/2010, 1:40:12 PM

Volume Grand Totals

## Average Hourly Volumes

| | east-bound | west-boun | Combined |
|---|---|---|---|
| 12:00 AM | 0.4 | 1.1 | 1.6 |
| 1:00 AM | 0.0 | 0.0 | 0.0 |
| 2:00 AM | 0.3 | 0.0 | 0.3 |
| 3:00 AM | 0.3 | 0.0 | 0.3 |
| 4:00 AM | 0.0 | 0.4 | 0.4 |
| 5:00 AM | 0.6 | 1.3 | 1.9 |
| 6:00 AM | 0.7 | 2.1 | 2.9 |
| 7:00 AM | 0.4 | 11.0 | 11.4 |
| 8:00 AM | 2.9 | 12.0 | 14.9 |
| 9:00 AM | 2.7 | 8.3 | 11.0 |
| 10:00 AM | 4.5 | 12.0 | 16.5 |
| 11:00 AM | 4.2 | 12.1 | 16.4 |
| 12:00 PM | 6.1 | 12.2 | 18.4 |
| 1:00 PM | 6.2 | 14.2 | 20.5 |
| 2:00 PM | 5.9 | 12.0 | 17.9 |
| 3:00 PM | 5.4 | 11.1 | 16.6 |
| 4:00 PM | 10.4 | 13.7 | 24.1 |
| 5:00 PM | 11.3 | 13.7 | 25.0 |
| 6:00 PM | 4.6 | 8.7 | 13.3 |
| 7:00 PM | 5.6 | 4.3 | 9.9 |
| 8:00 PM | 3.6 | 2.0 | 5.6 |
| 9:00 PM | 2.1 | 3.9 | 6.0 |
| 10:00 PM | 1.1 | 1.0 | 2.1 |
| 11:00 PM | 0.3 | 1.3 | 1.6 |
| ADT | 79.7 | 158.6 | 238.3 |

## Study Grand Totals

| east-bound | west-boun | Combined |
|---|---|---|
| 579 | 1161 | 1740 |
| 33.3 % | 66.7 % | |

# TimeMark Incorporated

City of Ashland Public Works/Engineering Department

Transportation Commission Report

Village Square : -
Village Green : to
Village Park :

Site: Trans Comm - 01
Wednesday, 1/6/2010, 10:12:12 AM -
Wednesday, 1/13/2010, 1:40:12 PM

Speed Grand Totals
east-bound

**Hourly Averages**

| | Total | 0 - < 15 | 15 - < 20 | 20 - < 25 | 25 - < 30 | 30 - < 35 | 35 - < 40 | 40 - < 45 | 45 - < 50 | 50 - < 55 | 55 - < 60 | 60 - < 65 | 65 - < 70 | 70 - < 200 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:00 AM | 0.4 | 0.1 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1:00 AM | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2:00 AM | 0.3 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 3:00 AM | 0.3 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 4:00 AM | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 5:00 AM | 0.6 | 0.4 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 6:00 AM | 0.7 | 0.6 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 7:00 AM | 0.4 | 0.0 | 0.1 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 8:00 AM | 2.9 | 1.0 | 1.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 9:00 AM | 5.0 | 0.7 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10:00 AM | 4.5 | 2.2 | 2.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11:00 AM | 4.2 | 2.5 | 1.6 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 12:00 PM | 6.1 | 2.1 | 3.5 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1:00 PM | 6.2 | 3.0 | 2.9 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2:00 PM | 5.9 | 2.4 | 3.3 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 3:00 PM | 5.4 | 3.0 | 2.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 4:00 PM | 10.4 | 4.9 | 5.3 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 5:00 PM | 11.3 | 5.4 | 5.0 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 6:00 PM | 4.6 | 0.9 | 3.3 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 7:00 PM | 5.6 | 2.7 | 2.4 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 8:00 PM | 3.6 | 1.6 | 1.4 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 9:00 PM | 2.1 | 0.9 | 1.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10:00 PM | 1.1 | 0.0 | 0.7 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11:00 PM | 0.3 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| ADT | 82.0 | 34.7 | 39.7 | 5.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 2.3 | 0.0 | 0.0 | 0.0 | 0.0 |

| | 10.0% | 15.0% | 50.0% | 85.0% | 90.0% |
|---|---|---|---|---|---|
| **Percentile Speeds** (mph) | 11.5 | 12.4 | 15.4 | 18.7 | 19.3 |

**10 mph Pace Speed** 10.8 - 20.8
Number in pace 527 (91.0 %)

**Average** 15.5 mph
**Minimum** 7.6 mph
**Maximum** 27.1 mph

| **Speeds Exceeded** | 15.0 mph | 25.0 mph | 35.0 mph |
|---|---|---|---|
| | 18.6 % | 0.1 % | 0.0 % |
| Count | 326 | 1 | 0 |

**Study Grand Totals**

| | Total | 0 - < 15 | 15 - < 20 | 20 - < 25 | 25 - < 30 | 30 - < 35 | 35 - < 40 | 40 - < 45 | 45 - < 50 | 50 - < 55 | 55 - < 60 | 60 - < 65 | 65 - < 70 | 70 - < 200 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| east-bound | 595 | 253 | 288 | 37 | 1 | 0 | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 0 |
| | | 42.5% | 48.4% | 6.2% | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 2.7% | 0.0% | 0.0% | 0.0% | 0.0% |

# TimeMark Incorporated

City of Ashland Public Works/Engineering Department

Transportation Commission Report

Village Square : -
Village Green : to
Village Park :

Site: Trans Comm - 01
Wednesday, 1/6/2010, 10:12:12 AM -
Wednesday, 1/13/2010, 1:40:12 PM

Speed Grand Totals
Combined

**Hourly Averages**

| | Total | 0 - < 15 | 15 - < 20 | 20 - < 25 | 25 - < 30 | 30 - < 35 | 35 - < 40 | 40 - < 45 | 45 - < 50 | 50 - < 55 | 55 - < 60 | 60 - < 65 | 65 - < 70 | 70 - < 200 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:00 AM | 1.6 | 0.4 | 0.7 | 0.3 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1:00 AM | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2:00 AM | 0.3 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 3:00 AM | 0.3 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 4:00 AM | 0.4 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 5:00 AM | 1.9 | 1.0 | 0.6 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 6:00 AM | 2.9 | 1.0 | 1.6 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 7:00 AM | 11.4 | 4.0 | 6.0 | 1.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 8:00 AM | 14.9 | 5.6 | 9.0 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 9:00 AM | 13.3 | 3.1 | 7.1 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10:00 AM | 16.5 | 5.5 | 9.6 | 1.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11:00 AM | 16.4 | 6.8 | 8.8 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 12:00 PM | 18.4 | 5.2 | 11.1 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1:00 PM | 20.5 | 7.6 | 11.4 | 1.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2:00 PM | 17.9 | 6.0 | 10.9 | 0.9 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 3:00 PM | 16.6 | 7.0 | 8.1 | 1.1 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 4:00 PM | 24.1 | 11.7 | 12.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 5:00 PM | 25.0 | 9.6 | 13.4 | 1.9 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 6:00 PM | 13.3 | 3.3 | 8.4 | 1.4 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 7:00 PM | 9.9 | 4.0 | 5.1 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 8:00 PM | 5.6 | 1.9 | 2.7 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 9:00 PM | 6.0 | 2.1 | 3.4 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10:00 PM | 2.1 | 0.3 | 1.3 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11:00 PM | 1.6 | 0.6 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| ADT | 240.6 | 86.8 | 133.0 | 17.6 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 2.3 | 0.0 | 0.0 | 0.0 | 0.0 |

| **Percentile Speeds** | 10.0% | 15.0% | 50.0% | 85.0% | 90.0% |
|---|---|---|---|---|---|
| (mph) | 12.1 | 12.9 | 16.0 | 19.1 | 19.7 |

| **10 mph Pace Speed** | 10.9 - 20.9 | **Average** | 16.0 mph |
|---|---|---|---|
| Number in pace | 1602 (92.1 %) | **Minimum** | 7.6 mph |
| | | **Maximum** | 27.6 mph |

| **Speeds Exceeded** | 15.0 mph | 25.0 mph | 35.0 mph |
|---|---|---|---|
| | 63.0 % | 0.3 % | 0.0 % |
| Count | 1107 | 6 | 0 |

**Study Grand Totals**

| | Total | 0 - < 15 | 15 - < 20 | 20 - < 25 | 25 - < 30 | 30 - < 35 | 35 - < 40 | 40 - < 45 | 45 - < 50 | 50 - < 55 | 55 - < 60 | 60 - < 65 | 65 - < 70 | 70 - < 200 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| east-bound | 595 | 253 | 288 | 37 | 1 | 0 | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 0 |
| | | 42.5% | 48.4% | 6.2% | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 2.7% | 0.0% | 0.0% | 0.0% | 0.0% |
| west-bound | 1161 | 380 | 684 | 92 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 32.7% | 58.9% | 7.9% | 0.4% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Combined | 1756 | 633 | 972 | 129 | 6 | 0 | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 0 |
| | | 36.0% | 55.4% | 7.3% | 0.3% | 0.0% | 0.0% | 0.0% | 0.0% | 0.9% | 0.0% | 0.0% | 0.0% | 0.0% |

**From:** "Phil Eschtruth Harrison" <phil@ashlandhome.net>
**To:** <olsonj@ashland.or.us>
**CC:** <j17s02@mind.net>, <lovefarm9@jeffnet.org>, "Julia Sommer" <juliamsommer...
**Date:** 11/17/2009 10:41 PM
**Subject:** Ashland Village: Traffic Study

Dear Mr. Olson -

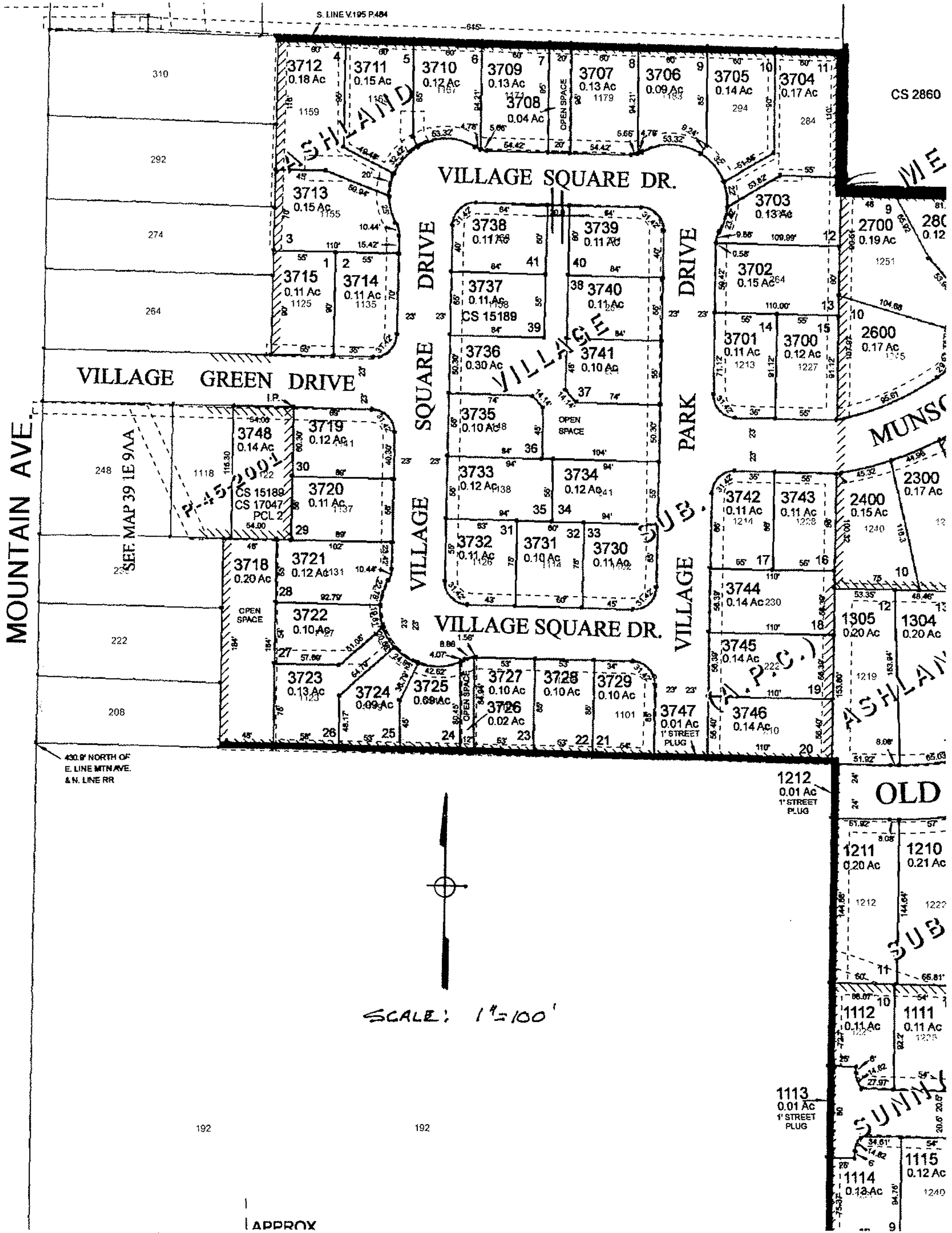
The board of the Ashland Village Home Owner's Association recently met with resident Julia Sommer and discussed the issue of drivers going through the neighborhood at inappropriate speeds and concern that some people may be using the neighborhood as a shortcut to N. Mountain and East Main. Other neighbors have expressed similar concerns over time. We understand a traffic study was done some years ago and would like to request an updated study to see if stop signs or other traffic calming measures may be warranted.

Thank you in advance for your assistance in moving this request forward.

Sincerely,

Phil Eschtruth Harrison
President, Ashland Village Home Owner's Association
on behalf of the board
Daytime phone: 778-5354

cc: Stephanie Houston, board treasurer
cc: Stephanie Peterson, board secretary
cc: Julia Sommer, Ashland Village resident



S. LINE V.195 P.484
MOUNTAIN AVE.
VILLAGE GREEN DRIVE
VILLAGE SQUARE DR.
VILLAGE SQUARE DRIVE
VILLAGE PARK DRIVE
ASHLAND
VILLAGE PARK SUB. (A.P.C.)
ASHLAND
MUNSO
OLD
SUB
SUNN
CS 2860
CS 15189
CS 15189
CS 17047
PCL 2
P-45-2001
SEE MAP 39 1E 9AA
3712 0.18 Ac
3711 0.15 Ac
3710 0.12 Ac
3709 0.13 Ac
3708 0.04 Ac
3707 0.13 Ac
3706 0.09 Ac
3705 0.14 Ac
3704 0.17 Ac
3713 0.15 Ac
3703 0.13 Ac
3738 0.11 Ac
3739 0.11 Ac
3702 0.15 Ac
3715 0.11 Ac
3714 0.11 Ac
3737 0.11 Ac
3740 0.11 Ac
3736 0.30 Ac
3741 0.10 Ac
3701 0.11 Ac
3700 0.12 Ac
3735 0.10 Ac
3748 0.14 Ac
3719 0.12 Ac
3733 0.12 Ac
3734 0.12 Ac
3720 0.11 Ac
3742 0.11 Ac
3743 0.11 Ac
3732 0.11 Ac
3731 0.10 Ac
3730 0.11 Ac
3718 0.20 Ac
3721 0.12 Ac
3744 0.14 Ac
3722 0.10 Ac
3745 0.14 Ac
3723 0.13 Ac
3724 0.09 Ac
3725 0.09 Ac
3727 0.10 Ac
3726 0.02 Ac
3728 0.10 Ac
3729 0.10 Ac
3747 0.01 Ac 1' STREET PLUG
3746 0.14 Ac
2700 0.19 Ac
2600 0.17 Ac
2400 0.15 Ac
2300 0.17 Ac
1305 0.20 Ac
1304 0.20 Ac
1212 0.01 Ac 1' STREET PLUG
1211 0.20 Ac
1210 0.21 Ac
1112 0.11 Ac
1111 0.11 Ac
1113 0.01 Ac 1' STREET PLUG
1115 0.12 Ac
1114 0.13 Ac
OPEN SPACE
310
292
274
264
248
222
208
192
192
430.9' NORTH OF E. LINE MTN AVE. & N. LINE RR
SCALE: 1"=100'
APPROX

**Village Green at Village Square Dr**

North on Village Park Drive

**Village Park Dr at Village Square Dr**

Munson Dr at Village Park Dr

Looking north on Village Square from Village Green


**Looking South on Village Square Drive from Village Green**

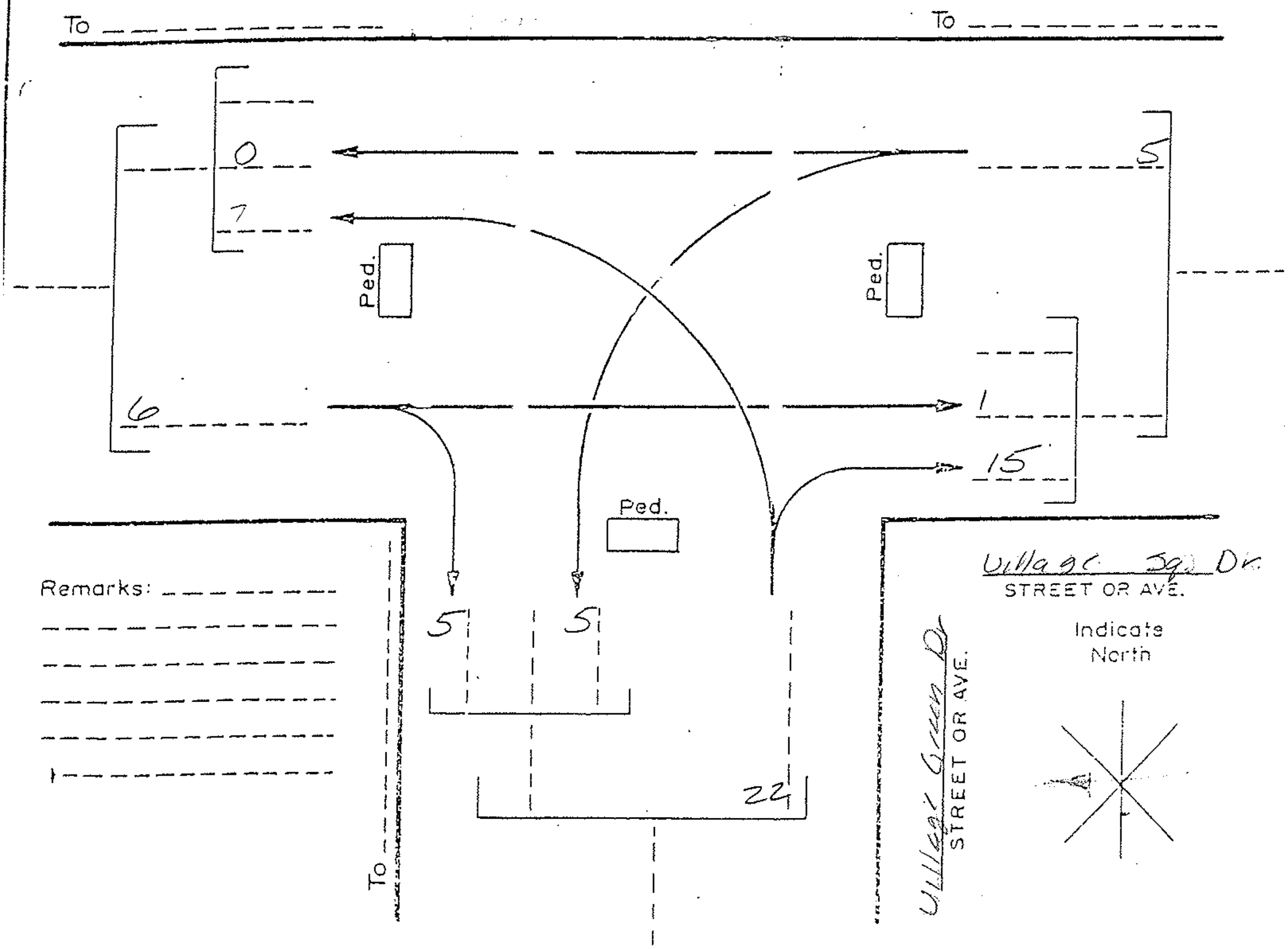
# CITY OF ASHLAND, ENGINEERING DIVISION

## TURN MOVEMENT VOLUMES

DATE: 11/25/09
DAY OF WEEK:
ACTUAL COUNT (VEH.): ______ HRS.
HOURS COUNTED:
PEDESTRIAN COUNT: 0.5 HRS.
HOURS COUNTED: 3:30 PM – 4:00 PM
WEATHER: fair, clear

CITY OR COUNTY: Ashland
INTERSECTION OF: Village Square Dr
Village Green Dr
MILE POST: N A
CLASSIFICATION: local

| | No. | % |
|---|---|---|
| TOTAL VEHICLES ENTERING INTERSECTION | 33 | 100 |
| ENTERING FROM NORTH & SOUTH | 11 | 33% |
| ENTERING FROM EAST & WEST | 22 | 67% |



# CITY OF ASHLAND

## PUBLIC WORKS DEPARTMENT
### ENGINEERING DIVISION

## FIELD OBSERVATION REPORT FOR INTERSECTIONS

**LOCATION:** Squok __ Village Green Dr

**DATE:** 11/22/04 **TIME:** [illegible]

| OPERATIONAL CHECKLIST: | | NO | YES |
|---|---|---|---|
| 1. | Do obstructions block the driver's view of opposing or conflicting vehicles? | ✓ | |
| 2. | Do drivers respond incorrectly to signals, signs or other traffic control devices? | ✓ | |
| 3. | Are there violations of parking or other traffic regulations? | ✓ | |
| 4. | Do drivers have trouble finding the correct path through the location? | ✓ | |
| 5. | Are drivers confused about routes, street names or other guidance information? | ✓ | |
| 6. | Are vehicle speeds: Too high? | ✓ | |
| | Too low? | ✓ | |
| 7. | Is vehicle delay causing a safety problem? | ✓ | |
| 8. | Are there traffic flow deficiencies or traffic conflict patterns associated with turning movements? | ✓ | |
| 9. | Are problems being caused by the volume of: Through traffic? | ✓ | |
| | Turning traffic? | | |
| 10. | Are there other traffic flow deficiencies or traffic conflict patterns? | | |
| 11. | Do the presence of existing driveways contribute to accidents or erratic movements? | | |
| 12. | Do pedestrian movements through the location cause conflicts? | ✓ | |
| 13. | Does the lack of adequate lighting cause safety problems? | ✓ | |
| 14. | Are pavement conditions causing drivers to react in an erratic fashion? | ✓ | |
| 15. | Do approach grades cause safety problems? | ✓ | |

PHYSICAL CHECKLIST:

| | Operational Component | | | |
|---|---|---|---|---|
| 1. | 1 | Can sight obstructions be removed or decreased? | | |
| 2. | 1, 8 | Does the legal parking layout affect: | ✓ | |
| | | Sight distance? | | |
| | | Through or turning vehicle paths? | | |
| | | Traffic flow? | | |
| 3. | 2 | Are signals inadequate as to placement, conformity, number of signal heads, or timing (see MUTCD) | | |
| 4. | 2, 5 | Are signs inadequate as to usefulness, message, size conformity and placement? (see MUTCD) | ✓ | |
| 5. | 4 | Are pavement markings inadequate as to their clarity or location? | ✓ | |
| 6. | 4 | Is channelization (islands or paint markings) inadequate for: | N/A | |
| | | Reducing conflict areas? | | |
| | | Separating traffic flows? | | |
| | | Defining movements? | | |
| 7. | 4 | Are roadway alignment or lane widths inadequate? | ✓ | |
| 8. | 6 | Do speed limits appear to be unsafe? | ✓ | |
| 9. | 9 | Is the number of lanes insufficient? | ✓ | |
| 10. | 11 | Are driveways improperly: | ✓ | |
| | | Designed? | | |
| | | Located? | | |
| 11. | 12 | Should pedestrian crosswalk be: | ✓ | |
| | | Relocated? | | |
| | | Repainted? | | |
| 12. | 13 | Is roadway lighting inadequate? | ✓ | |
| 13. | 14 | Does pavement condition (potholes, washboard or slippery surface) contribute to accidents? | ✓ | |
| 14. | 8, 9 | Are curb radii too small? | ✓ | |
| 15. | 15 | Are approach grades too steep? | ✓ | |

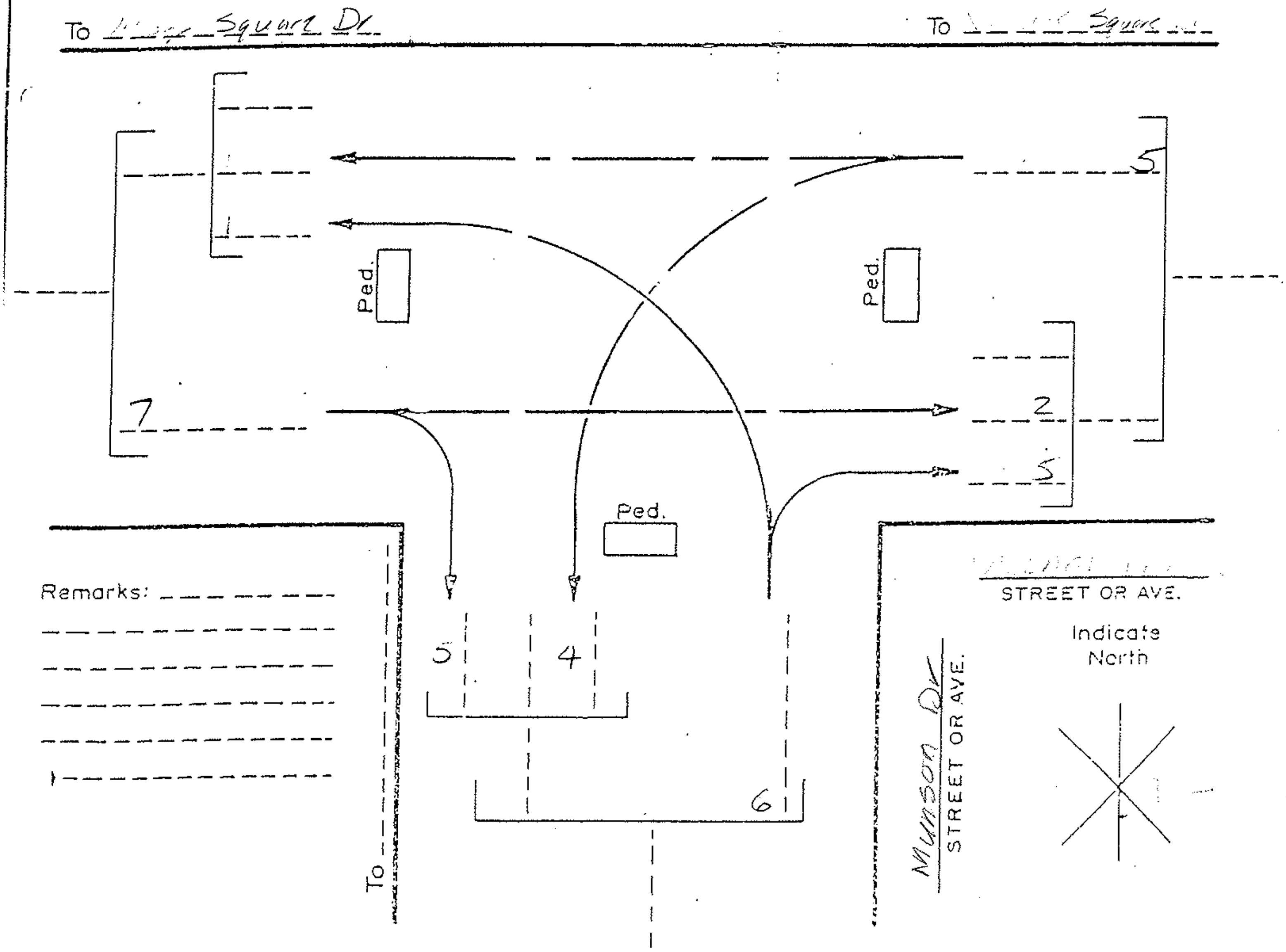
# CITY OF ASHLAND, ENGINEERING DIVISION

## TURN MOVEMENT VOLUMES

DATE 12/01/09
DAY OF WEEK Tuesday
ACTUAL COUNT (VEH.) ........ HRS.
HOURS COUNTED ........
PEDESTRIAN COUNT ........ HRS.
HOURS COUNTED ........
WEATHER ........

CITY OR COUNTY Ashland
INTERSECTION OF Village Park Dr / Munson Dr
MILE POST ........
CLASSIFICATION ........

| | No. | % |
|---|---|---|
| TOTAL VEHICLES ENTERING INTERSECTION | 18 | 100 |
| ENTERING FROM NORTH & SOUTH | 12 | 66% |
| ENTERING FROM EAST & WEST | 6 | 34% |



# CITY OF ASHLAND

## PUBLIC WORKS DEPARTMENT
### ENGINEERING DIVISION

## FIELD OBSERVATION REPORT FOR INTERSECTIONS

**LOCATION:** Willow Park Dr. / Munson Dr.

**DATE:** 11/25/09 **TIME:** 3:30 PM

OPERATIONAL CHECKLIST:

| | | NO | YES |
|---|---|---|---|
| 1. | Do obstructions block the driver's view of opposing or conflicting vehicles? | ✓ | |
| 2. | Do drivers respond incorrectly to signals, signs or other traffic control devices? | ✓ | |
| 3. | Are there violations of parking or other traffic regulations? | ✓ | |
| 4. | Do drivers have trouble finding the correct path through the location? | ✓ | |
| 5. | Are drivers confused about routes, street names or other guidance information? | ✓ | |
| 6. | Are vehicle speeds: Too high? | ✓ | |
| | Too low? | ✓ | |
| 7. | Is vehicle delay causing a safety problem? | ✓ | |
| 8. | Are there traffic flow deficiencies or traffic conflict patterns associated with turning movements? | ✓ | |
| 9. | Are problems being caused by the volume of: Through traffic? | ✓ | |
| | Turning traffic? | ✓ | |
| 10. | Are there other traffic flow deficiencies or traffic conflict patterns? | ✓ | |
| 11. | Do the presence of existing driveways contribute to accidents or erratic movements? | ✓ | |
| 12. | Do pedestrian movements through the location cause conflicts? | ✓ | |
| 13. | Does the lack of adequate lighting cause safety problems? | ✓ | |
| 14. | Are pavement conditions causing drivers to react in an erratic fashion? | ✓ | |
| 15. | Do approach grades cause safety problems? | ✓ | |

PHYSICAL CHECKLIST:

| | Operational Component | | | |
|---|---|---|---|---|
| 1. | 1 | Can sight obstructions be removed or decreased? | ✓ | |
| 2. | 1, 8 | Does the legal parking layout affect: | ✓ | |
| | | Sight distance? | | |
| | | Through or turning vehicle paths? | ✓ | |
| | | Traffic flow? | ✓ | |
| 3. | 2 | Are signals inadequate as to placement, conformity, number of signal heads, or timing (see MUTCD) | ✓ | |
| 4. | 2, 5 | Are signs inadequate as to usefulness, message, size conformity and placement? (see MUTCD) | ✓ | |
| 5. | 4 | Are pavement markings inadequate as to their clarity or location? | ✓ | |
| 6. | 4 | Is channelization (islands or paint markings) inadequate for: | N/A | |
| | | Reducing conflict areas? | | |
| | | Separating traffic flows? | | |
| | | Defining movements? | | |
| 7. | 4 | Are roadway alignment or lane widths inadequate? | ✓ | |
| 8. | 6 | Do speed limits appear to be unsafe? | ✓ | |
| 9. | 9 | Is the number of lanes insufficient? | ✓ | |
| 10. | 11 | Are driveways improperly: | ✓ | |
| | | Designed? | | |
| | | Located? | ✓ | |
| 11. | 12 | Should pedestrian crosswalk be: | ✓ | |
| | | Relocated? | | |
| | | Repainted? | ✓ | |
| 12. | 13 | Is roadway lighting inadequate? | ✓ | |
| 13. | 14 | Does pavement condition (potholes, washboard or slippery surface) contribute to accidents? | ✓ | |
| 14. | 8, 9 | Are curb radii too small? | ✓ | |
| 15. | 15 | Are approach grades too steep? | ✓ | |

CITY OF
ASHLAND

October 13, 2003

Mr. Tom Houston
1137 Village Square Drive
Ashland OR 97520

RE: TRAFFIC IN ASHLAND VILLAGE SUBDIVISION

Dear Tom:

I understand from Dawn Lamb that you had recently called with a request for speed humps to be installed in the Ashland Village Subdivision neighborhood.

We received a similar request from your neighbors four years ago which prompted the engineering staff to conduct a traffic study to determine the extent of the speeding. A report was made to the Traffic Safety Commission on July 22, 1999. A copy of that report, the associated data and the minutes are enclosed for your review.

In brief, it was found that the average speed through the area is less than 20 MPH. During the course of the study only two cars (3%) were noted traveling between 25 and 29 MPH. This subdivision has the lowest average speed of any residential area ever recorded in Ashland. The unusually low speeds can be attributed to the original design of the subdivision which placed 90 degree turns at the end of each straight run. The use of curb extensions and unlimited parking also helps to keep the traffic speeds low. It feels very uncomfortable to drive 25 MPH or higher in this neighborhood. Since this is a residential street the speed is set by Oregon Revised Statute at 25 MPH. A slower speed would not be possible. Speed humps would not be warranted in this area nor would they be very effective.

Often when driving spaces are narrow the speed of traffic is perceived to be much faster than it really is. You may wish to drive the entire loop in both directions at exactly 25 MPH and see how difficult it is to maintain that speed.

We do not feel that we can do anything further to significantly reduce traffic speed in this area. If you wish to discuss this further, please feel free to call at 488-5347.

Sincerely,

James H. Olson, PLS
City Surveyor/ Project Manager

CC: Traffic Safety Commission
Paula Brown

**Engineering**
20 E. Main Street
Ashland, Oregon 97520
www.ashland.or.us

Tel: 541/488-5347
Fax: 541-/488-6006
TTY: 800/735-2900

Length of some vehicles to help determine desired length of On-Street Parking spaces.

The current on-street space in Ashland is required to be 24 ft for Credit for On-Street Parking.

Question: Does the Transportation Commission want to recommend that the requirement for credit for On-Street Parking be reduced to 21 or 22 feet.

| | |
|---|---|
| Ford Ranger | 16.5 ft |
| Ford Windstar Van | 16.5 ft |
| Audi Station Wagon | 14.8 ft |
| Toyota SR5 | 14.5 ft |
| Suburu Wagon | 15 ft |
| Ford F 150 Pickup | 16.75 ft |
| Chevrolet Blazer SUV | 15.5 ft |
| Ford Explorer Sport Trak | 17.5 ft |
| VW Jetta | 14.5 ft |
| Mercedes 300E | 15.5 ft |

RECEIVED
JAN 25 2010
City of Ashland
from Brent Thompson

# A POLICY
# on
# GEOMETRIC DESIGN
# of
# HIGHWAYS
# and
# STREETS

# 2001

**American Association of State**
**Highway and Transportation Officials**
**444 North Capitol Street, N.W., Suite 249**
**Washington, D.C. 20001**
**(202) 624-5800**
**www.transportation.org**



ISBN: 1-56051-156-7

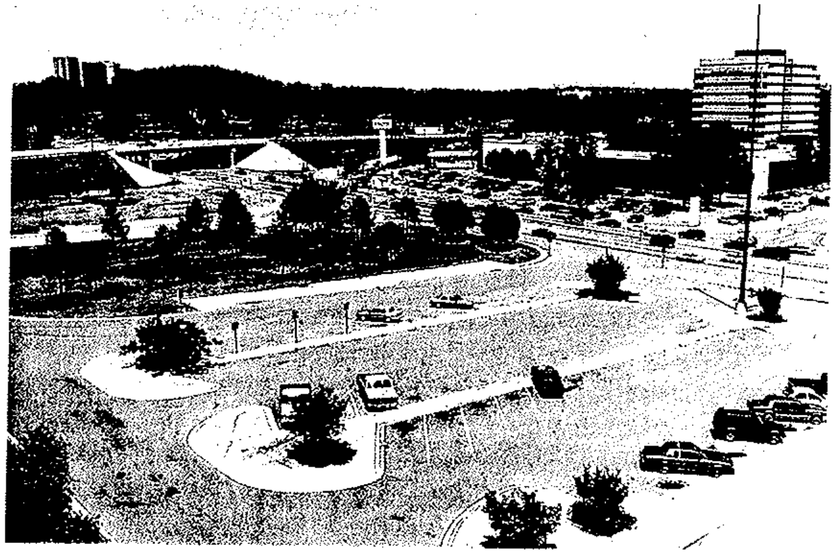


**Exhibit 4-30. Typical Park-and-Ride Facility**

An important part of the urban parking problem is the uneven distribution of off-street parking facilities within urban central business districts and the lack of off-street facilities in urban neighborhood commercial areas. As a consequence, there is a demand for on-street parking to provide for the delivery and pick-up of goods. Frequently, alleys and other off-street loading areas are not provided in many communities. Short-duration parking for business or shopping should therefore be accommodated.

Curb parking on urban arterial streets is acceptable when the available through-traffic lanes can accommodate traffic demand. On rural arterials, provisions should be made for emergency stopping only. On urban arterial street reconstruction projects or on projects where additional right-of-way is being acquired to upgrade an existing route to arterial status, parking should be eliminated whenever practical to increase capacity and safety. The impacts on abutting land uses should, however, be carefully considered, as the loss of existing on-street parking can cause significant loss in the economic well-being of the abutting property.

It has been found that most vehicles will parallel park within 150 to 300 mm [6 to 12 in] of the curb face and on the average will occupy approximately 2.1 m [7 ft] of actual street space. Therefore, the desirable minimum width of a parking lane is 2.4 m [8 ft]. However, to provide better clearance from the traveled way and to accommodate use of the parking lane during peak periods as a through-travel lane, a parking lane width of 3.0 to 3.6 m [10 to 12 ft] is desirable. This width is also sufficient to accommodate delivery vehicles and serve as a bicycle route, allowing a bicyclist to maneuver around an open door on a motor vehicle.

On urban collector streets, the demand for land access and mobility is equal. The desirable parking lane width on urban collectors is 2.4 m [8 ft] to accommodate a wide variety of traffic operations and land uses. To provide better clearance and the potential to use the parking lane during peak periods as a through-travel lane, a parking lane width of 3.0- to 3.6-m [10- to 12-ft] is desirable. A 3.0 to 3.6 m [10 to 12 ft] parking lane will also accommodate urban transit operations. On urban collector streets within residential neighborhoods where only passenger vehicles need to be accommodated in the parking lane, 2.1-m [7-ft] parking lanes have been successfully used. In fact, a total width of 10.8 m [36 ft], consisting of two travel lanes of 3.3 m [11 ft] and parking lanes of 2.1 m [7 ft] on each side, are frequently used.

On-street parking is generally permitted on local streets. A 7.8 m [26 ft] wide roadway is the typical cross section used in many urban residential areas. This width assures one through lane even where parking occurs on both sides. Specific parking lanes are not usually designated on such local streets. The lack of two moving lanes may be inconvenient to the user in some cases; however, the frequency of such concerns has been found to be remarkably low. Random intermittent parking on both sides of the street usually results in areas where two-way movement can be accommodated.

Construction procedures on new roadways should be carefully considered so as to provide a longitudinal joint at the boundary of the proposed parking lane. It has been found that such joints aid in ensuring that the parked vehicle clears the parallel travel lane. On asphalt-surfaced streets, traffic markings are recommended to identify the parking lane. The marking of parking spaces encourages more orderly and efficient use of parking spaces where parking turnover occurs and tends to prevent encroachment on fire hydrant zones, bus stops, loading zones, and approaches to corners.

In urban areas, central business districts, and commercial areas where significant pedestrian crossings are likely to occur, the design of the parking lane/intersection relationship should be given consideration. When the parking lane is carried up to the intersection, motorists may utilize the parking lane as an additional lane for right-turn movements. Such movements may cause operational problems and often result in turning vehicles mounting the curb and possibly striking such intersection elements as traffic signals, utility poles, or luminaire supports. The transitioning out of the parking lane of a minimum of 6.0 m [20 ft] in advance of the intersection is one method of eliminating this problem. An example of such treatment is shown in Exhibit 4-31. A second method is to prohibit parking for such a distance as to create a short turn lane.

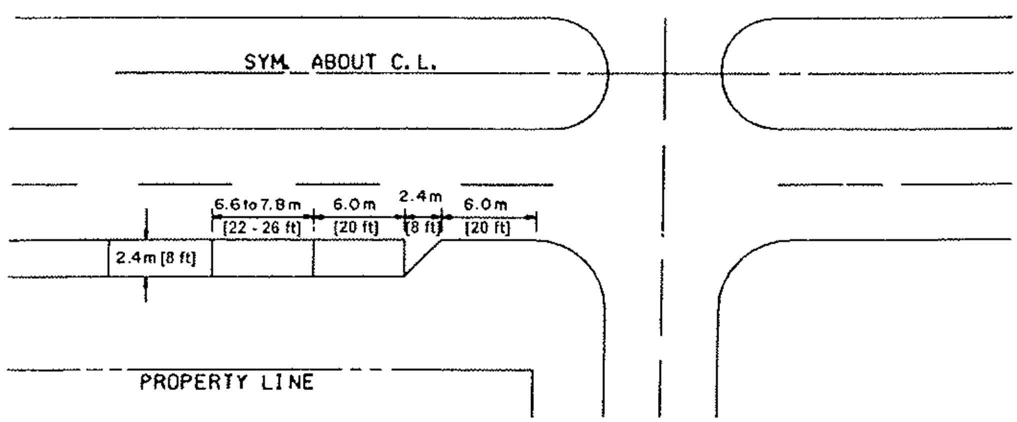



**Exhibit 4-31. Parking Lane Transition at Intersection**

# TRAFFIC ENGINEERING HANDBOOK

**Fourth Edition**


James L. Pline

*Editor*



Institute of Transportation Engineers



PRENTICE HALL, *Englewood Cliffs, New Jersey 07632*

numbers to a central facility, which could allow immediate identification of vehicles wanted for unpaid tickets, theft, etc.

## Parking meters

The parking meter as a mechanical time-measuring device generally indicating the available time remaining for a parked vehicle was developed in 1935. Some meters do not indicate the available time remaining, while others indicate the time over-parked. In proper application, they can greatly simplify the problem of enforcing parking regulations and encourage parking turnover. A 1985/86 study of meter performance in Ann Arbor, Michigan, found that violations per parked vehicle exceeded 50%, while less than 6% were ticketed.[43] Despite this, the study concluded that most meters efficiently allocated the premium short-term curb parking.

### Types and installations

Two general types of parking meters are used: the manual and the automatic. The manual type requires the parker to insert a coin and turn a handle, which winds the clock and actuates the meter for a time period determined by the coin inserted and the duration the meter allows. In the automatic parking meter, a coin is inserted and the time automatically registers for that coin. However, the clock mechanism of the automatic meter must be wound periodically by maintenance personnel. In practical use, the two meters are interchangeable, with the same time limits and choice of coins. Suggested standard specifications for manual meters have been published and are available.[44]

Parking meters may be installed at either curb or off-street locations. For curb locations, the meters are mounted on a pipe generally placed about 18 in back from the curb and about 2 ft from the front edge of the parking stall. In some instances, two meter heads are mounted atop a single post. This can be done effectively in curb locations with "paired" parking where one post (with two meter heads) serves the parking stalls immediately ahead and behind the meters (see Figure 7–11), or in off-street facilities where two parking spaces face each other across an island.

Vending machines are in use, which dispense tickets showing expiration times. These are then placed on the parked vehicle dashboards. While this system is used in the United States for certain municipal lots, it is reportedly also used in Europe for curb parking time-limit control, in lieu of individual meters at each stall. The advantages are less clutter, lower maintenance and collection costs; while the principal disadvantage is lack of convenience—the parker must walk to the nearest vending machine.

### Collection security

In major cities, the number of parking meters installed in on-street and off-street locations numbers in the thousands. The amount of money involved in the parking meter program is also substantial. For this reason, the security of parking meter funds is important. This involves the coins in the meter before it is collected and also from the time it is taken from the parking meter until it is deposited in the bank.

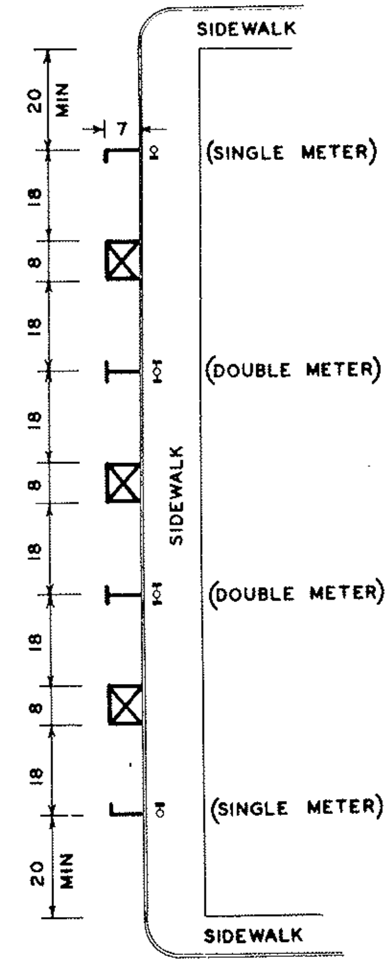



**Figure 7–11.** Example of paired parking meter layout. SOURCE: *Parking Principles*, Special Report 125, Fig. 9.1, Highway Research Board, 1971.

External security requires a parking meter with a good lock and a key that is difficult to duplicate. As no key is immune from duplication, no large municipal meter system should have all meters operated with the same lock-and-key combination. The lock should be designed so that it can be quickly and easily changed in the field to a different key combination whenever desired. This should be done particularly when a parking meter is stolen or a key disappears.

In parking meter revenue security, the coin-collection system is critical. The system should be designed so that coins go directly from the parking meter into the collection device without the collector having access to them. Several meter collection systems are available that provide a high degree of security. One uses a meter coin box that has a special top that can be inserted into a locked collection cart. The cart and the meter container have matching connections that release the money directly from the meter coin box into the collection cart. A similar system consists of a closed collection cart that connects by a flexible hose to a fitting on the meter, which releases the coins from the box directly into the cart. A third system has a long vacuum hose on a collection truck that connects directly to the parking meter collection box. A

[43] A. Adiv and W. Wang, "On-Street Parking Meter Behavior," *Transportation Quarterly*, Eno Foundation, July 1987.

[44] "Parking Meter Specifications," *Technical Notes*, ITE, October 1980.

fourth system involves the use of two coin containers. The container in the meter containing the coins is replaced by a collector with a duplicate empty container. The locked containers that are removed with the coins are then carried to the collection point for emptying and counting.

#### New developments

Several innovative parking meters have been invented. In the spring of 1989, experimental installations were planned in 12 cities of one such unit. This meter is reported to operate on solar power, with 3-day storage capacity in full darkness.

### Layout dimensions

Three types of stalls must be considered in dimensioning curb parking: end, interior, and "paired" parking stalls (see Figure 7–11). The end stall (because a vehicle can either be driven directly into or out of it) need only be long enough to accommodate a parked vehicle. A length of 18 ft is sufficient and often used today. Interior stalls must allow room for maneuvering, and a length of 21 to 22 ft is commonly used.

"Paired" parking has stall layouts so that two vehicles are parked bumper to bumper and the pairs of stalls are separated by maneuver areas. Stall lengths of 18 ft are used, with a well-defined marked maneuver area of 8 ft. The markings must be well-maintained.

The parking stalls should be defined by white lines extending perpendicular from the curb for 7 ft. The end stall line is generally marked with an L, while interior lines have a T shape.

A common mistake in layout is to crowd driveways and intersections too closely. In general, no stall should begin closer than 20 ft from the nearest sidewalk edge of *any* cross street. If the cross street is a major route, or the intersection control is a signal or four-way stop, the distance should be not less than 50 ft (100 to 150 ft is usually needed in such cases). These dimensions apply to both approaching and departing sides of the intersection.

Driveways should be cleared by a distance at least equal to the proper radius. This should be 15 ft from the point the driveway crosses the back edge of the sidewalk for most cases and no closer than 5 ft to the beginning and ending of the radius, if more than a 10-ft radius exists.

## Truck facilities

### Access and circulation

#### Driveways

In general, trucks use the same entrances to most sites as do employee vehicles and other traffic. The entrances and exits must be designed to accommodate the largest expected truck.[45] Additional vehicle tracking and off-tracking information is given in Chapter 6. If parking is allowed at the curb on the approach street, the vehicle path will be moved farther from the curb and result in a decreased entrance width and flare length. Adjustment of the property line location will also change the entrance dimensions. Ease of turning into the site may be accomplished by use of "Y" or angle approaches. This may be particularly useful for access to and from a one-way street.

The minimum width of driveway required at gates is generally recommended at 16 ft for one-way operation, 28 ft for two-way operation, and 34 ft where pedestrian traffic is involved. If inbound trucks are stopped at the gate, it will be necessary to recess the gates so that sufficient storage space will be available for one truck, and preferably two, without backup into the access street.

[45] *Guidelines for Driveway Design and Location*, ITE Recommended Practice.

#### Service roads

Service roads within the property should be at least 24 ft wide for two-way operation. Wherever practical, truck traffic should circulate counterclockwise, as the left turn is easier with large commercial vehicles because the driver's position is on the left side of the vehicle. Also, this places the truck in the most favorable position for backing into the dock. Parking should be prohibited where it may conflict with truck circulation or maneuvering.

A waiting or holding area for trucks is required next to the docks to accommodate trucks waiting for a dock space. The size of this area should be sufficient to provide space for the maximum number of trucks expected on the site, less the number of dock spaces provided.

### Loading dock design

#### Type of expected vehicle

The type and size of truck is evidently the most critical factor in dock design. For suburban developments, the type of land use gives an indication of truck sizes requiring accommodation. In a CBD, the average truck size is likely to be smaller because of more constricted access. Table 7–9 gives the results of a Dallas study.[46]

#### Design dimensions

There are five major elements to consider in the design of a loading dock—all related to the size of truck.[47] Several of these are illustrated in Figure 7–12.

**TABLE 7–9**
**Distribution of Delivery Vehicle Types, Dallas CBD**

| Vehicle Type | Percentage of Total Shipments Carried | Cumulative Percentage |
|---|---|---|
| Passenger car | 18 | 18 |
| Pickup truck | 10 | 28 |
| Van | 27 | 55 |
| Single-unit truck | 40 | 95 |
| Tractor-trailer truck | 3 | 98 |
| Other | 2 | 100 |

SOURCE: D. Christiansen; "Off-Street Truck Loading Facilities in Downtown Areas: Requirements and Design," *Transportation Research Record 668*, Transportation Research Board, 1978.

[46] D. Christiansen, "Off-Street Truck Loading Facilities in Downtown Areas: Requirements and Design," *Transportation Research Record 668*, Transportation Research Board, 1978.

[47] C-J Chang, "Determination of Off-Street Truck Loading Space Requirements in Downtown Areas," *Compendium of Technical Papers*, ITE, 1985.

THE AMERICAN INSTITUTE OF ARCHITECTS

RAMSEY/SLEEPER

# ARCHITECTURAL STANDARDS

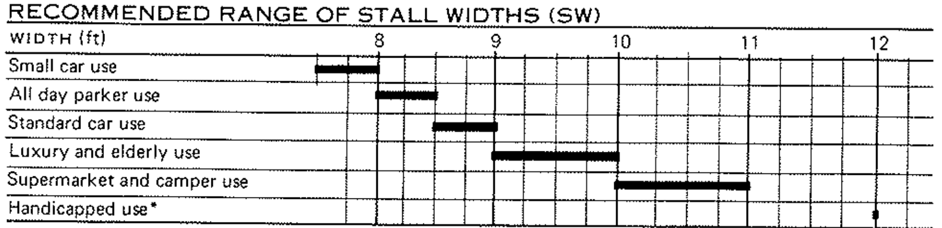
SEVENTH EDITION

ROBERT T. PACKARD, AIA
EDITOR

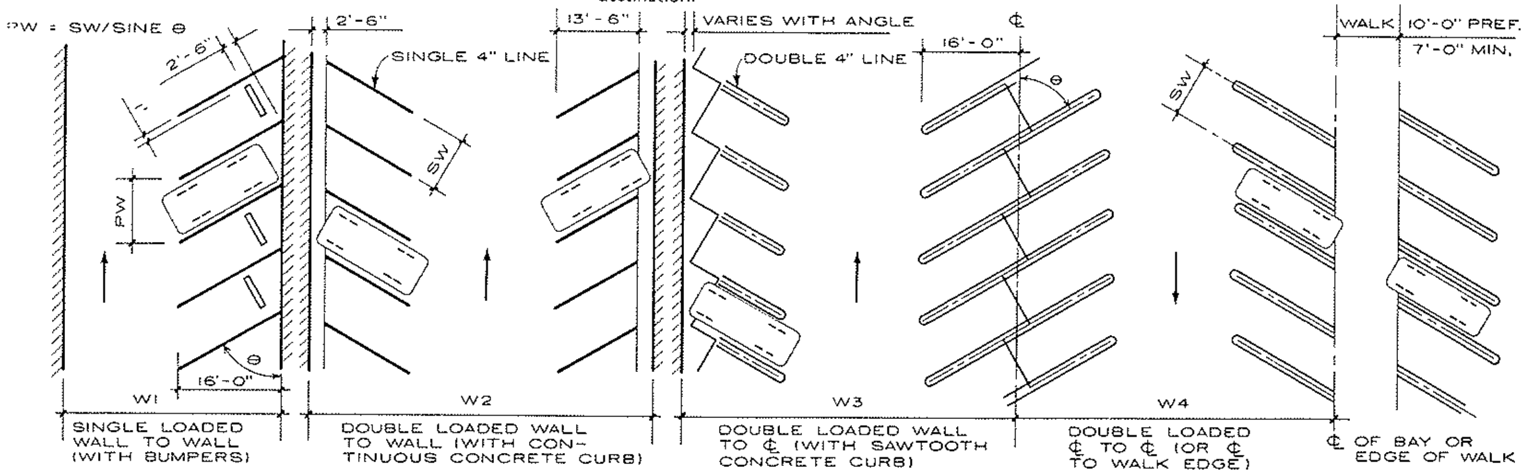
NEW YORK CHICHESTER BRISBANE TORONTO

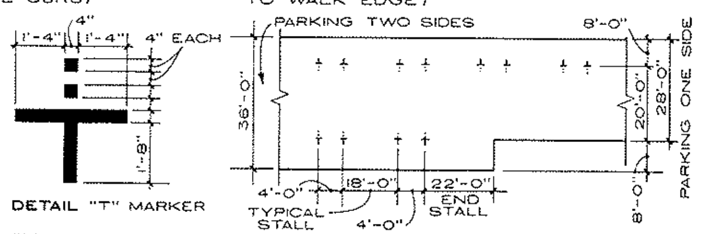
NOTE: Small car dimensions should be used only in lots designated for small cars or with entrance controls that admit only small cars. Placing small car stalls into a standard car layout is not recommended. Standard car parking dimensions will accommodate all normal passenger vehicles. Large car parking dimensions make parking easier and faster and are recommended for luxury, a high turnover, and use by the elderly. When the parking angle is 60° or less, it may be necessary to add 3 to 6 ft to the bay width to provide aisle space for pedestrians walking to and from their parked cars. Local zoning laws should be reviewed before proceeding.

RECOMMENDED RANGE OF STALL WIDTHS (SW)




*Minimum requirements = 1 or 2 per 100 stalls or as specified by local, state, or federal law; place convenient t destination.




PARALLEL PARKING STALLS AND "T" MARKER DETAIL

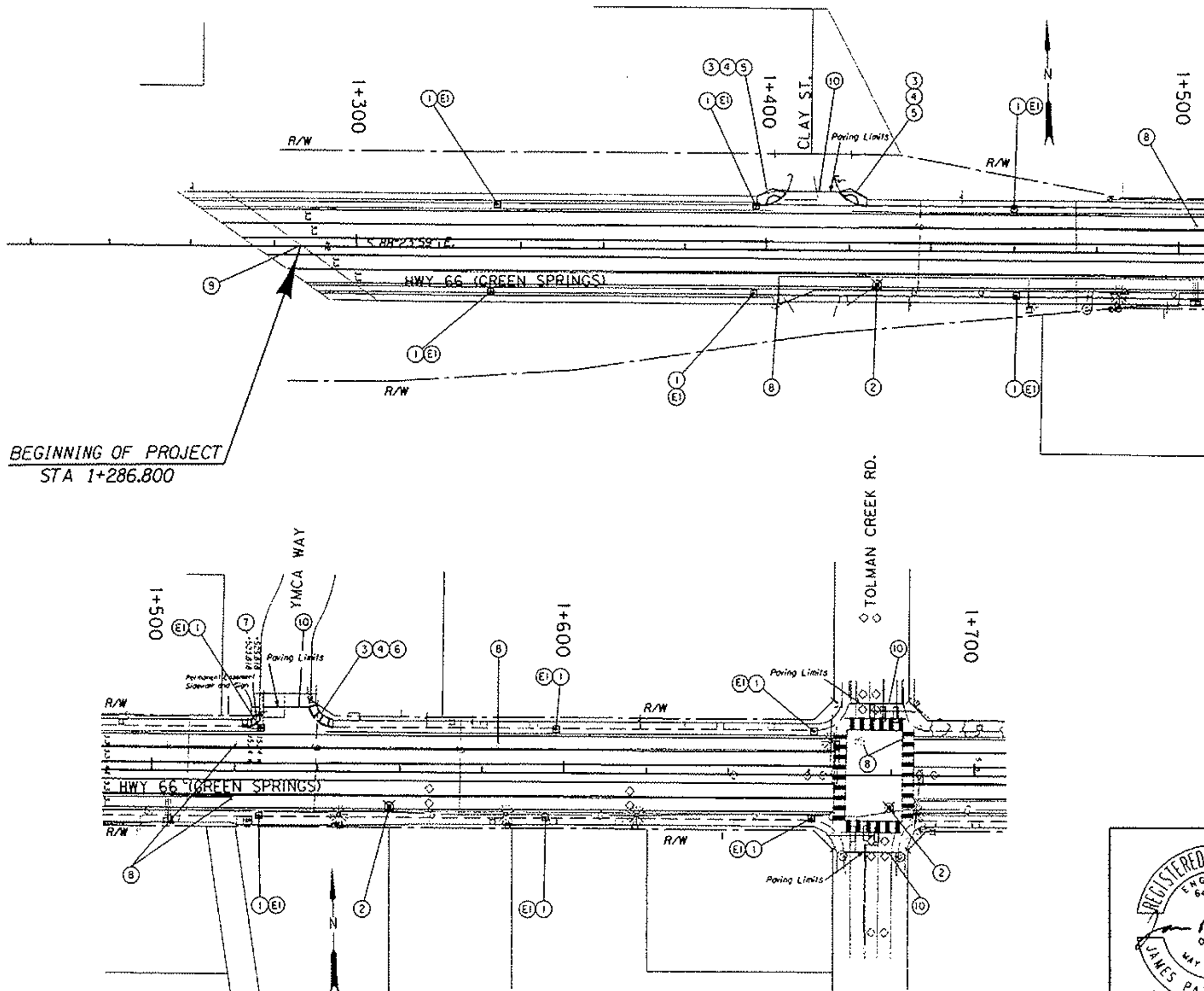
PARKING DIMENSIONS IN FEET AND INCHES

| | | | θ ANGLE OF PARK | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SW | W | 45° | 50° | 55° | 60° | 65° | 70° | 75° | 80° | 85° | 90° |
| Group I: small cars | 8'-0" | 1 | 25'-9" | 26'-6" | 27'-2" | 29'-4" | 31'-9" | 34'-0" | 36'-2" | 38'-2" | 40'-0" | 41'-9" |
| | | 2 | 40'-10" | 42'-0" | 43'-1" | 45'-8" | 48'-2" | 50'-6" | 52'-7" | 54'-4" | 55'-11" | 57'-2" |
| | | 3 | 38'-9" | 40'-2" | 41'-5" | 44'-2" | 47'-0" | 49'-6" | 51'-10" | 53'-10" | 55'-8" | 57'-2" |
| | | 4 | 36'-8" | 38'-3" | 39'-9" | 42'-9" | 45'-9" | 48'-6" | 51'-1" | 53'-4" | 55'-5" | 57'-2" |
| Group II: standard cars | 8'-6" | 1 | 32'-0" | 32'-11" | 34'-2" | 36'-2" | 38'-5" | 41'-0" | 43'-6" | 45'-6" | 46'-11" | 48'-0" |
| | | 2 | 49'-10" | 51'-9" | 53'-10" | 56'-0" | 58'-4" | 60'-2" | 62'-0" | 63'-6" | 64'-9" | 66'-0" |
| | | 3 | 47'-8" | 49'-4" | 51'-6" | 54'-0" | 56'-6" | 59'-0" | 61'-2" | 63'-0" | 64'-6" | 66'-0" |
| | | 4 | 45'-2" | 46'-10" | 49'-0" | 51'-8" | 54'-6" | 57'-10" | 60'-0" | 62'-6" | 64'-3" | 66'-0" |
| | 9'-0" | 1 | 32'-0" | 32'-9" | 34'-0" | 35'-4" | 37'-6" | 39'-8" | 42'-0" | 44'-4" | 46'-2" | 48'-0" |
| | | 2 | 49'-4" | 51'-0" | 53'-2" | 55'-6" | 57'-10" | 60'-0" | 61'-10" | 63'-4" | 64'-9" | 66'-0" |
| | | 3 | 46'-4" | 48'-10" | 51'-4" | 53'-10" | 56'-0" | 58'-8" | 61'-0" | 63'-0" | 64'-6" | 66'-0" |
| | | 4 | 44'-8" | 46'-6" | 49'-0" | 51'-6" | 54'-0" | 57'-0" | 59'-8" | 62'-0" | 64'-2" | 66'-0" |
| | 9'-6" | 1 | 32'-0" | 32'-8" | 34'-0" | 35'-0" | 36'-10" | 38'-10" | 41'-6" | 43'-8" | 46'-0" | 48'-0" |
| | | 2 | 49'-2" | 50'-6" | 51'-10" | 53'-6" | 55'-4" | 58'-0" | 60'-6" | 62'-8" | 64'-6" | 65'-11 |
| | | 3 | 47'-0" | 48'-2" | 49'-10" | 51'-6" | 53'-11" | 57'-0" | 59'-8" | 62'-0" | 64'-3" | 65'-11 |
| | | 4 | 44'-8" | 45'-10" | 47'-6" | 49'-10" | 52'-6" | 55'-9" | 58'-9" | 61'-6" | 63'-10" | 65'-11 |
| Group III: large cars | 9'-0" | 1 | 32'-7" | 33'-0" | 34'-0" | 35'-11" | 38'-3" | 40'-11" | 43'-6" | 45'-5" | 46'-9" | 48'-0" |
| | | 2 | 50'-2" | 51'-2" | 53'-3" | 55'-4" | 58'-0" | 60'-4" | 62'-9" | 64'-3" | 65'-5" | 66'-0" |
| | | 3 | 47'-9" | 49'-1" | 52'-3" | 53'-8" | 56'-2" | 59'-2" | 61'-11" | 63'-9" | 65'-2" | 66'-0" |
| | | 4 | 45'-5" | 46'-11" | 49'-0" | 51'-8" | 54'-9" | 58'-0" | 61'-0" | 63'-2" | 64'-10" | 66'-0" |
| | 9'-6" | 1 | 32'-4" | 32'-8" | 33'-10" | 34'-11" | 37'-2" | 39'-11" | 42'-5" | 45'-0" | 46'-6" | 48'-0" |
| | | 2 | 49'-11" | 50'-11" | 52'-2" | 54'-0" | 56'-6" | 59'-3" | 61'-9" | 63'-4" | 64'-8" | 66'-0" |
| | | 3 | 47'-7" | 48'-9" | 50'-2" | 52'-4" | 55'-1" | 58'-4" | 60'-11" | 62'-10" | 64'-6" | 66'-0" |
| | | 4 | 45'-3" | 46'-8" | 48'-5" | 50'-8" | 53'-8" | 57'-0" | 59'-10" | 62'-2" | 64'-1" | 66'-0" |
| | 10'-0" | 1 | 32'-4" | 32'-8" | 33'-10" | 34'-11" | 37'-2" | 39'-11" | 42'-5" | 45'-0" | 46'-6" | 48'-0" |
| | | 2 | 49'-11" | 50'-11" | 52'-2" | 54'-0" | 56'-6" | 59'-3" | 61'-9" | 63'-4" | 64'-8" | 66'-0" |
| | | 3 | 47'-7" | 48'-9" | 50'-2" | 52'-4" | 55'-1" | 58'-4" | 60'-11" | 62'-10" | 64'-6" | 66'-0" |
| | | 4 | 45'-3" | 46'-8" | 48'-5" | 50'-8" | 53'-8" | 57'-0" | 59'-10" | 62'-2" | 64'-1" | 66'-0" |

OTE: θ angles greater than 70° have aisle widths wide enough for two-way travel.

...lliam T. Mahan, AIA; Santa Barbara, California

37V-44




1. Adjust Inlet - 12 (For Details, See Sht 2B-2)
   - E1 Construct Inlet Protection, Type 3 (See Drg. No. RD1010)
2. Adjust Manhole, Minor - 2 (For Details, See Sht 2B-2)
3. Remove Curb - 33 m
4. Remove Existing Sidewalk - 50 m²
5. Const. Sidewalk Ramp - 2 Option A, Perpendicular Ramp (See Drg. Nos. RD755)
6. Const. Sidewalk Ramp Option C, Parallel Ramp (See Drg. No. RD755)
7. Const. Sidewalk Ramp (See Detail "B", See Sht. 2B-3)
8. Adjust Box - 9
9. Match Extg. Pavement At Bridge End (For Details, See Sht. 2B) Sawcut & Fill End Panel Joint
10. Const. Street Connection - 4 (For Details, See Sht. 2B)

REGISTERED PROFESSIONAL ENGINEER 64309PE OREGON MAY 9, 2000 JAMES PATRIC BURFORD Expires Dec. 31, 2005

**OREGON DEPARTMENT OF TRANSPORTATION**
ROADWAY ENGINEERING SECTION

**OR 66: SISKIYOU BLVD. TO S. CITY LIMITS (ASHLAND)**
GREEN SPRINGS HIGHWAY
JACKSON COUNTY

Design Team Leader - James Burford
Designed By - Brian Sheadel
Drafted By - Brian Sheadel

**GENERAL CONSTRUCTION**

SHEET NO. 3

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