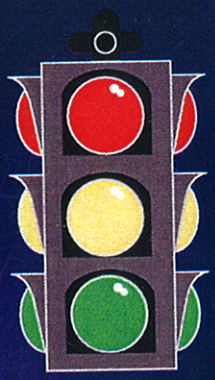

Dell Range Boulevard Corridor Study

Prepared for:

Cheyenne, Wyoming

May, 2000

BUCHER, WILLIS & RATLIFF CORPORATION

Executive Summary

The Dell Range Boulevard Corridor Study encompasses Dell Range Boulevard and the intersecting streets between Powderhouse Road and North College Avenue. The objectives of the study were to review the existing corridor conditions in terms of safety, mobility and access.

Traffic data was collected as a basis for evaluating the corridor. This data included a drive-through assessment of the number of lanes, locations of drives, traffic signals and adjacent land uses of Dell Range Boulevard. Traffic speed surveys on Dell Range Boulevard were conducted and the results indicated that most drivers are in compliance with the posted speed limits. Traffic counts revealed that commercial truck traffic comprises about 2 percent of the vehicles, which is normal for an arterial street such as Dell Range Boulevard. Traffic counts also revealed that the traffic volumes on Dell Range Boulevard west of Converse Avenue have grown by more than 35 percent since 1992, whereas volumes east of Converse Avenue have held consistent.

Level of Service is a grading system of A through F that determines the quality of traffic operation based on vehicle delay. Generally, both the signalized intersections and the street sections between them are operating at a level of service A and B during peak traffic periods. The Converse Avenue intersection and the street sections in front of Wal-Mart and in front of the Mall are exceptions. During the afternoon commuter traffic peak, the level of service is C at these locations. Level of service C is generally considered acceptable. The quality of traffic flow had recently been upgraded through traffic signal synchronization, prior to the level of service assessment, and is reflected in the results.

Accident information for the corridor was reviewed for a four-year period between 1996 and 1999. Several signalized intersections through the corridor shared a distinctive pattern of rear-end collisions for the four-year period. This accident pattern is strongly related to the need for signal timing improvements. In addition to the recently implemented signal timing improvements, improvement of traffic vehicle detection by the signals, and improvement of intersection pavement markings could also be beneficial in accident potential reduction. These improvements could be expected to reduce accident experience by more than 20 percent, and would be cost effective in terms of accident loss prevention compared to amortized improvement costs.

The intersection at Converse Avenue has experienced the greatest number of accidents, with 113 collisions recorded over four years. This intersection can be cost efficiently improved through the addition of a northbound lane, re-timing the signal, and improving vehicle detection and intersection pavement marking. The estimated construction cost for this project is $360,000.

With the need of the corridor to provide mobility to high traffic volumes, safe access from Dell Range Boulevard to the adjacent properties has become a concern. The City has established guidelines for arterial access, which are equitable to property owners and provide a level of protection of the corridor's mobility. Those guidelines have been generally adhered to in the corridor with only a few exceptions:

- The right-turn in only driveway for Burger King and Barnes and Noble east of Prairie Avenue
- The easterly driveway for Wal-Mart
- Two driveways for the Fire Station
- The westerly driveways for the recently approved King Soopers development

A drainage ditch along the north side of Dell Range Boulevard restricts options for alternative access to the adjacent properties, other than to Dell Range Boulevard. For properties adjacent to Grandview Avenue, access onto Dell Range Boulevard is especially difficult. Signalization of the Grandview Avenue intersection is not desirable, because Grandview Avenue is too close to the Wal-Mart signal to allow effective signalization.

A more effective solution would be construction of a new street between the north end of Grandview Avenue and Converse Avenue to the east. This would allow traffic to access the Converse Avenue and Dell Range Boulevard signalized intersection. This would be preferable to connecting Grandview Avenue to Wal-Mart and routing public traffic through their parking lot, or north to the Converse Avenue residential area. The cost of a new street is estimated at about $400,000.

Another access strategy that could be implemented to benefit individual properties along Dell Range Boulevard would be for property owners to establish joint access easements across the rear of their properties to provide access to side streets. The City may need to play a role in facilitating the formation of these joint easements.

The suggested options for improvement of traffic safety, mobility and access in the corridor include:

- Improve the Converse Avenue intersection through construction of a northbound right-turn lane, which would allow for a change in lane designation and a change in signal phasing. Following completion of this improvement, the Dell Range Boulevard corridor signals should be re-timed.
- Change the lane usage and signal phasing for the Prairie Avenue intersection.
- Provide stop bar vehicle detection at all signals in the corridor. Along with the detector improvements, provide left-turn arrow signal indications for westbound traffic at the Rue Terre and at the Wal-Mart intersections.
- Provide permanent stop-bar pavement markings for all signalized intersections.
- Construct a public street east from Grandview Avenue to Converse Avenue, south of the Post Office.
- Assist property owners along the north side of Dell Range Boulevard, between Grandview Avenue and Hilltop, in developing joint access easements.
- Extend Lindenway across the ditch, between Sheridan Avenue and Dell Range Boulevard.
- Extend Bluegrass east to the Wal-Mart entrance.
- Close the following driveways off Dell Range Boulevard, to:
    - Burger King / Barnes and Noble
    - The east Wal-Mart drive.
    - The west King Soopers driveway to the west pad site.
- Develop a future street plan for the undeveloped area north of Prairie Avenue.

Background

Dell Range Boulevard is one of the principal arterials in Cheyenne, Wyoming, networking with other principal arterials, minor arterials and collector streets. This study focused on Dell Range Boulevard. from Powderhouse Road to North College Avenue. Figure 1 depicts the location of the corridor within the city of Cheyenne. The objectives of this study were to review the existing corridor conditions in terms of safety, mobility and access. The study involved the compilation of the corridor physical and traffic data, traffic analysis, and preparation of recommended improvements for the corridor. Both interim and long range improvements have been suggested. The results of this current study were compared to a study of the corridor completed in 1992.

Study Work Plan

The work plan for the current study includes assessment of the existing conditions, suggestions for alternative improvements and establishment of an action plan for implementation.

The identification and assessment of existing conditions in the corridor were based traffic and roadway data analysis, and included the following elements:

- Physical inventory of the corridor
- Traffic speed surveys
- Vehicle classification counts
- Traffic volume counts
- Travel time surveys
- Level of Service (LOS) analysis
- Intersection traffic queues
- Accident history review
- Access control review

Physical Inventory

The physical inventory of the corridor was compiled through on site observations and aerial photography of the corridor. A typical mid-block cross section of Dell Range Boulevard consists of an asphalt pavement comprised of two through lanes each direction with a continuous two-way left-turn lane in the center. Two feet concrete curb and gutters and sidewalks are located on each side of the road. The adjacent land use between Powderhouse Road and Converse Avenue is primarily commercial development, including a mall, various retail, and restaurants.

Traffic Speed

The posted speed limit through the corridor is 40mph. Traffic speed surveys were conducted at five locations along the corridor. Traffic speed and classification surveys were gathered east of Powderhouse Road, east of Frontier Mall Drive, both east and west of Converse Avenue, and west of North College Avenue.

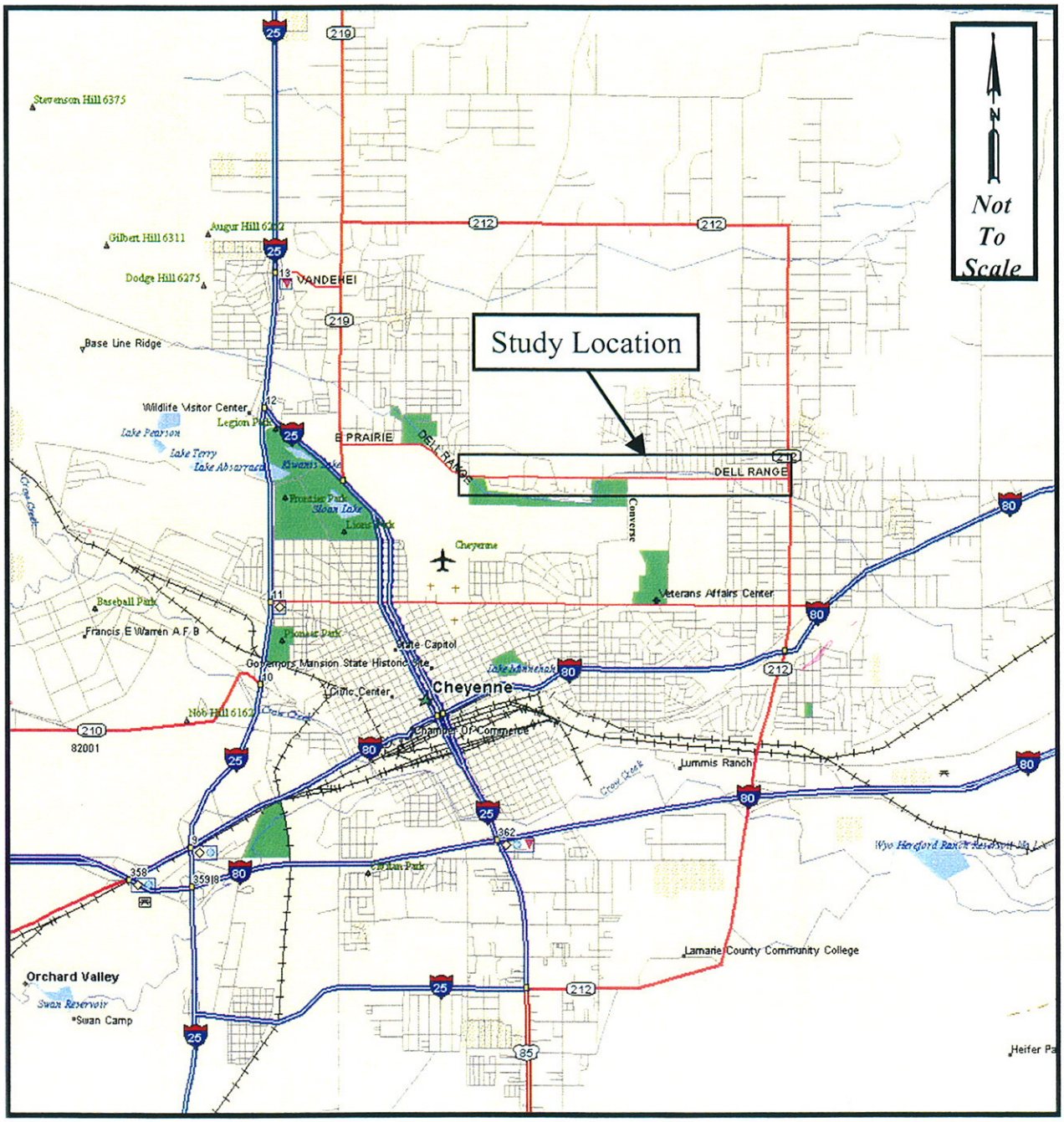

Figure 1 Study Location

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The manual on Uniform Traffic Control Devices (MUTCD) lists five factors that should be considered in establishing a proper speed zone:

1. Road surface characteristics, shoulder condition, grade, alignment and sight distance.
2. The 85-percentile speed and pace speed.
3. Roadside development and culture and roadside friction.
4. Safe speed for curves or hazardous locations within the zone.
5. Parking practices and pedestrian activity.
6. Reported accident experience for a recent 12-month period.

The 85-percentile speed is the speed below which 85 percent of the motorists are driving. The pace speed is the 10mph range, which includes the greatest number of motorists. Both of these speeds are indicative of the appropriated speed posting. The speed survey summary in Table 1 confirms that the existing 40mph posting is appropriate throughout the corridor.

Table 1 - Speed Survey Summary

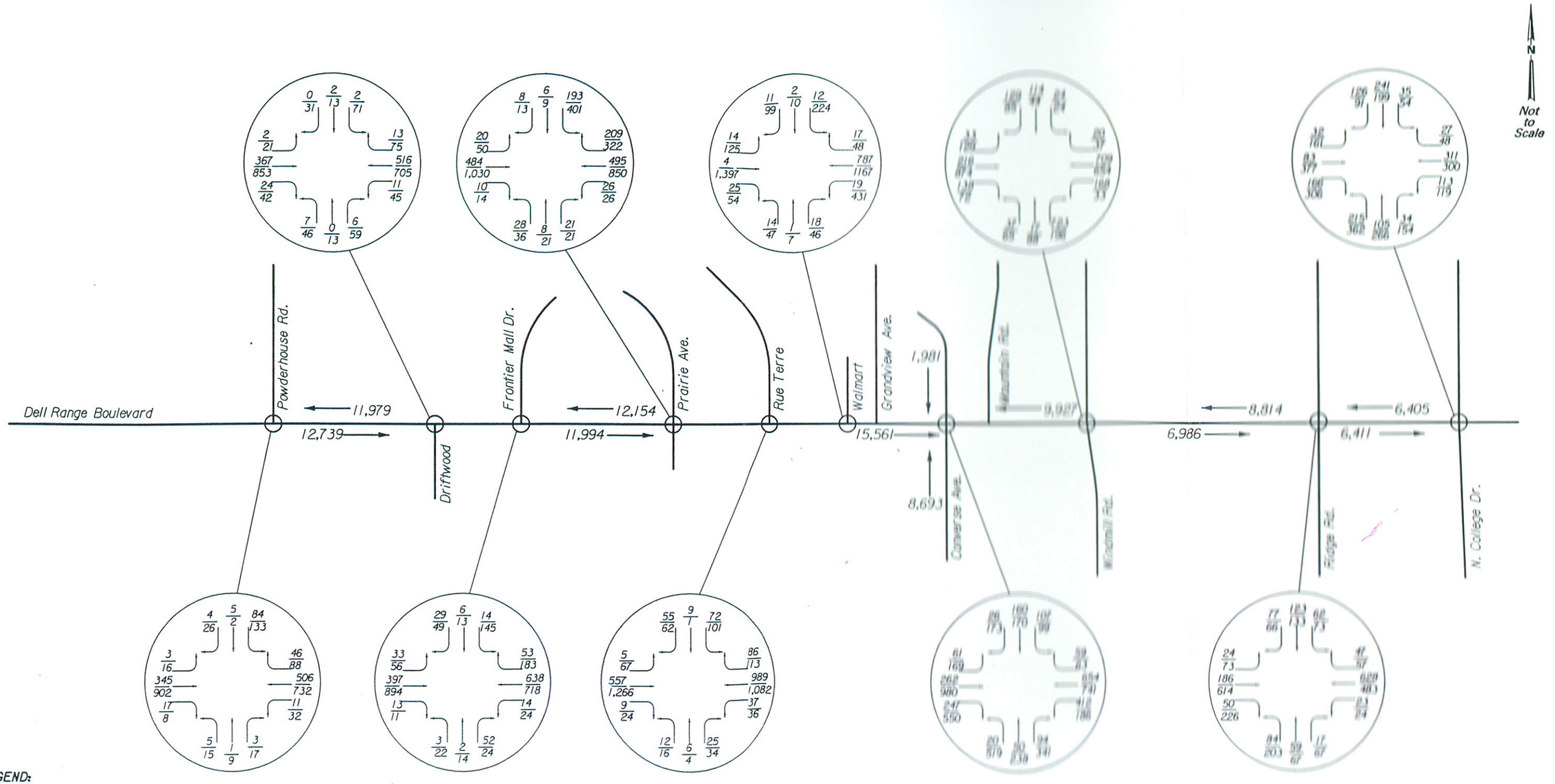
Location	Speed Limit (mph)	85% E.B. (mph)	85% W.B. (mph)	Pace Speed E.B. (mph)	Pace Speed W.B. (mph)
East of Powderhouse Rd	40	39.7	40.6	29-39	32-42
East of Frontier Mall Dr	40	37.9	37.9	28-38	28-38
East of Converse Ave	40	N/A	38.0	N/A	29-39
West of Converse Ave	40	38.3	N/A	29-39	N/A
West of N. College Ave	40	38.2	41.0	0-40	32-42

Vehicle Classification Counts

Classification counts were conducted, which determined the number of each vehicle class in the traffic stream. Roadway and intersection capacity is affected by the distribution of vehicle types. Large trucks effect traffic flow differently than passenger vehicles: they take up more roadway space, and have slower start up times than passenger cars. These two factors combined result in consumption of more capacity at signalized intersections by each truck than by each passenger car. Approximately 2% of the classified vehicles along Dell Range Boulevard were large trucks (vehicles greater than 28 feet in length). This small percentage of large trucks indicates normal arterial street traffic flow, with only minimal truck impacts.

Traffic Volume Counts

Twenty-four hour traffic counts were conducted at four locations along the corridor. These counts, as depicted in Figure 2, provide a general overview of traffic flow within the corridor. Generally, traffic volumes west of Converse Avenue are about twice as great as traffic volumes east of Converse Avenue. Traffic volumes west of Converse Avenue have increased by more than 35 percent since 1992, while traffic volumes east of Converse Avenue have remained relatively the same. Whereas, daily traffic volumes are of interest in providing a general overview of traffic flow and growth, operational analyses of intersections rely on the peak hour traffic counts. Commuter peak hour traffic demands represent the periods of the highest intersection capacity requirements. Peak hour traffic volumes were used to compute intersection capacity, queue lengths and level of service at each signalized intersection along the corridor. The peak hour counts during the morning and afternoon commuter peak hours for the signalized intersections along Dell Range Boulevard were obtained from the City of Cheyenne and are also depicted in Figure 2.



LEGEND:

$\frac{55}{62} = \frac{\text{AM PEAK-HOUR TRAFFIC (7-8)}}{\text{PM PEAK-HOUR TRAFFIC (4:30-5:30)}}$

10,876 = AVERAGE DAILY TRAFFIC

◯ = TRAFFIC SIGNAL

Figure 2 Corridor Counts

Travel Time Surveys

Speed and delay studies were conducted along the Dell Range Boulevard corridor. The studies measured the time to traverse between each signalized intersection in the corridor, and how much of that time was spent in motion versus stopped in a traffic queue. The results were used to determine the level of service for each segment of road, and to define areas of congestion. The test vehicle method was used to obtain the travel time information. This method involved conducting travel time runs in each direction during the morning and afternoon peak periods. During each run, both moving times and stopped times were recorded for each segment of the corridor between signalized intersections. The average travel speed for each segment was computed, and the results compared to *Highway Capacity Manual* standards to determine the level of service. It should be noted that the travel time runs were conducted following implementation of coordinated traffic signal operation through the corridor. The travel times represent significantly more effective traffic movement than what may have been present prior to the new signal timings.

Level of Service

Level of service is a grading system of "A" through "F", defining the quality of traffic operation along a roadway or through an intersection. The *Highway Capacity Manual* provides different criteria for determining level of service on an arterial road, from level of service through a signalized intersection, from level of service at a non-signalized intersection

Level of service at a signalized intersection is based on average vehicle delay at the intersection, as defined in Table 2.

Table 2 – Level of Service Criteria for Signalized Intersections

Level of Service	Control Delay Per Vehicle (sec)
A	≤ 10
B	> 10 and ≤ 20
C	> 20 and ≤ 35
D	> 35 and ≤ 55
E	>55 and ≤ 80
F	> 80

Through the methodology defined in the *Highway Capacity Manual* involving peak hour traffic volumes, lane assignments, and traffic signal timings, the level of service was computed for each intersection for the morning and afternoon peak periods, as summarized in Table 3. The results of the analysis show that all intersections operate at Level of Service "B" or better, except at Converse Avenue, which operates at Level of Service "C" during the afternoon peak hour.

Table 3 – Existing Signalized Level of Service

Cross Street	Period	Intersection LOS	Average Vehicle Delay (Sec)
Powderhouse	AM	A	3.3
	PM	A	7.3
Driftwood	AM	A	0.4
	PM	A	4.4
Frontier Mall	AM	A	2.0
	PM	A	8.1
Prairie / Bluegrass	AM	A	8.3
	PM	B	15.2
Rue Terre	AM	A	4.9
	PM	A	9.7
Wal-Mart	AM	A	0.7
	PM	B	16.2
Converse	AM	B	12.3
	PM	C	27.2
Windmill	AM	A	7.1
	PM	B	12.7
Ridge	AM	B	12.6
	PM	B	13.6
N. College	AM	B	12.5
	PM	B	16.1

The level of service along segments of an arterial street is determined through vehicle speeds. The *Highway Capacity Manual* provides a level of service criteria dependent on the characteristics of the arterial, including access, parking, number of lanes, flares, signals, speed limits and roadside developments. Dell Range Boulevard appears to function as a suburban principal arterial (Type II). The level of service criteria for this type of arterial street is summarized in Table 4.

Table 4 – Arterial Levels of Service

Level of Service	Average Travel Speed (mph)
A	< 35
B	< 28
C	< 22
D	< 17
E	< 13
F	< 13

The results of the arterial level of service analysis are summarized in Table 5. The analysis results show that the arterial generally functions at an acceptable level of service. The areas that exhibit the greatest delay are the segments adjacent to Wal-Mart and to the mall.

Table 5 - Arterial Level of Service Summary

AM EASTBOUND		Average Speed	HCM LOS	PM EASTBOUND		Average Speed	HCM LOS
From	To			From	To		
Powderhouse	Driftwood	34.9	B	Powderhouse	Driftwood	32.9	B
Driftwood	Frontier Mall	35.2	A	Driftwood	Frontier Mall	32.8	B
Frontier Mall	Prairie	28.9	B	Frontier Mall	Prairie	33.3	B
Prairie	Rue Terre	33.4	B	Prairie	Rue Terre	28.6	B
Rue Terre	Wal-Mart	31.7	B	Rue Terre	Wal-Mart	24.1	C
Wal-Mart	Converse	28.4	B	Wal-Mart	Converse	28.5	B
Converse	Windmill	33.2	B	Converse	Windmill	31.3	B
Windmill	Ridge	42.0	A	Windmill	Ridge	28.3	B
Ridge	College	39.6	A	Ridge	College	33.8	B

AM WESTBOUND		Average Speed	HCM LOS	PM WESTBOUND		Average Speed	HCM LOS
From	To			From	To		
College	Ridge	34.2	B	College	Ridge	37.6	A
Ridge	Windmill	41.3	A	Ridge	Windmill	40.1	A
Windmill	Converse	35.1	A	Windmill	Converse	35.0	B
Converse	Wal-Mart	38.3	A	Converse	Wal-Mart	25.8	C
Wal-Mart	Rue Terre	38.5	A	Wal-Mart	Rue Terre	27.4	C
Rue Terre	Prairie	42.5	A	Rue Terre	Prairie	28.2	B
Prairie	Frontier Mall	40.5	A	Prairie	Frontier Mall	26.1	C
Frontier Mall	Driftwood	42.1	A	Frontier Mall	Driftwood	27.8	C
Driftwood	Powderhouse	42.5	A	Driftwood	Powderhouse	32.5	B

Intersection Traffic Queues

Traffic signals function most efficiently when multiple vehicles can be serviced during the same signal interval. A vehicle queuing analysis was performed for each signalized intersection in the corridor. The actual lengths of turn-bays were compared to the projected lengths of through vehicle and turning vehicle queues. Turn-bays should be of adequate length to fully store turning vehicles so that they don't spill back out of the turn-bays to block through vehicles. Turn-bays should also be long enough so that turning vehicles are not blocked from entering the turn-bays by queued through vehicles. Comparisons of projected vehicle queue lengths and actual turn-bay lengths are included in the technical appendix. Existing turn-bay lengths appear to be adequate, with the exception of the Converse Avenue Intersection.

Accident History Review

Accident data for the years of 1996-1999 were compiled for the corridor. A review of the accident data revealed that a majority of the accidents occurred at or near intersections. Table 6 provides a comparison of accident experience by intersection. The intersection accident experience has been compared both on a numerical basis, and on the basis of vehicle exposure rate.

Table 6 - Accident Location Identification

Intersection	Number of Accidents				ADT (vehicles)	4-Year Vehicle Exposure	Accident Rate
	Fatal	Injury	PDO	Total			
Powderhouse Rd	0	3	13	16	21,220	30,981,200	0.52
Driftwood Dr	0	4	12	16	25,400	37,084,000	0.43
Frontier Mall Dr	0	2	20	22	20,570	30,032,200	0.73
Prairie Ave	0	6	31	37	15,080	22,016,800	1.68
Rue Terre	0	8	27	35	25,850	37,741,000	0.93
Wal-Mart Ent*	0	1	10	11	29,000	42,340,000	1.04
Converse Ave	0	34	79	113	33,680	49,172,800	2.30
Windmill Rd	0	2	19	21	17,060	24,907,600	0.84
Ridge Rd	0	8	20	28	15,700	22,922,000	1.22
N. College Ave	0	11	23	34	17,000	24,820,000	1.37

PDO = Property Damage Only
ADT = Average Daily Traffic
** - 1999 Accidents Only*

A more defined accident analysis was performed for the top five intersections in the corridor based on accident numbers. The five intersections were Prairie Avenue, Rue Terre, Converse Avenue, Ridge Road, and College Avenue. The five intersections were evaluated for probable causes based on their types of accidents. The accidents were categorized into five types. These types include:

- A left-turn accident occurs between a left-turn vehicle and a through vehicle travelling in the opposite direction.
- A right angle accident occurs between a through vehicle and another through vehicle from a cross street.
- A rear end accident occurs between two vehicles travelling in the same direction and lane.
- A sideswipe accident occurs between two vehicles traveling in the same direction but in different lanes.
- Other accidents include collision with a fixed object, or collisions involving pedestrians or bicycles.

To make proper use of accident data, it is important to correctly assess the probable cause of the accidents. This correct diagnosis of probable cause involves a comparison of predominate accident patterns at the intersection with a menu of typical factors that could contribute to that pattern of accident. The suspected probable causes must then be compared with actual field conditions to validate the probable cause as contributory. For example, rear end collisions at a signalized intersection could be related to poor signal visibility, inadequate signal timing, and several other factors. If field observations revealed that the signal timings were adequate, but signal heads were pedestal mounted at the side of the street and blocked from vision by tree growth, it would be a strong indication that the probable cause of a predominate rear end accident pattern was poor signal visibility.

Once the probable accident causes have been identified, it only remains to prescribe appropriate countermeasures to reduce the accident potential. In the case of the example sited above, the countermeasure might be to install mast-arm mounted signals. Research has shown that where countermeasures are properly applied, accident reductions can be expected. Furthermore, empirical data based on before and after studies provides a basis for estimating expected accident reduction for various improvement strategies.

Dell Range Boulevard and Converse Avenue

The results of the accident data analysis reveals that the predominate accident pattern for the Dell Range Boulevard and Converse Avenue intersection has been rear end collisions, comprising 53 percent of the total of 113 collisions.

A secondary pattern of collisions has been left-turn opposing accidents, composing of 33 percent of the total collisions. Field observations seemed to indicate that both of those collision patterns related to heavy left-turn volumes in conflict with heavy opposing through volumes. The operation of the traffic signal at Dell Range Boulevard and Converse Avenue currently tends to favor the through traffic movements as compared to the left-turning traffic movements in several ways. Although the traffic signal has a special phase set aside for left-turning traffic, that protection of a left-turn green arrow is only given if several cars queue back from the stop bar to reach a vehicle detector in the pavement. Otherwise, the left-turn traffic is given a permissive green signal, rather than a protective green arrow indication. This can result in left-turn vehicles attempting a left-turn even though there may not be a sufficient gap in the opposing traffic. During the periods when both left-turn and through traffic volumes are high, the available "green time" for vehicles to pass through the intersection must be shared by all movements. In the past, the signal has been timed so as to favor the through vehicles. This may have resulted in turning vehicles violating the signal clearance to avoid waiting through the next signal cycle. Insufficient green times during congested periods have also resulted in through vehicles trying to avoid waiting another cycle. These vehicles have violated the yellow or red clearance intervals and collided with other vehicles in front of them that stopped. This has been reflected in the rear end collision patterns. Accident potential may decrease through improved marking of the stop bar, and through providing vehicle detection at the stop bar.

Because of an insufficient number of northbound lanes, the existing northbound lanes include a lane that is shared by both left-turn and through vehicles. To provide signal protection for the left-turn movements as well as the through movements, the northbound and the southbound entering traffic has received their green signal indications at separate times. This is called "split phasing". Generally, split phasing consumes more signal green time than if opposing left-turns move concurrently followed by opposing through volumes moving concurrently. More efficient operation of the signal would provide more green time and would reduce the likely-hood of yellow and red clearance time violation, and the resultant collisions. This could be accomplished through construction of an additional northbound lane. The resultant configuration would be two northbound left-turn lanes, one through lane, and one right-turn lane.

Dell Range Boulevard and Prairie / Bluegrass Avenue

In the past four years, there have been 37 accidents at this intersection. Fifty-nine percent of the accidents have been rear end collisions. Frequently, rear end collisions can be traced back to the traffic signal operation. In the case of the Prairie Avenue intersection, the traffic signal operates with split phases northbound and southbound. The northbound traffic movement is light and often has no demand for the signal. Eastbound and westbound traffic is, therefore, accustomed to being serviced following the southbound traffic movement. On occasions where northbound traffic is serviced, it may confuse eastbound and westbound traffic that is anticipating a green indication, only to have their signal remain red while northbound traffic is serviced. This start-stop action can contribute to rear end collisions. Split phasing can be removed by reassigning the existing southbound lanes to include two left-turn lanes, and one combination through and right-turn lane.

Another factor possibly contributing to rear end collisions may be that prior to the recently implemented signal coordination timings, congestion between the intersections contributed to start-stop movements, initiating rear end collisions. Improved signal coordination may alleviate some rear end collisions.

Placing stop-bar pavement markings may also provide a more obvious target for stopping vehicles. At the time of this study, stop bars were not obvious at the intersection. Providing vehicle detection at the stop bars for all movements can also be a means of reducing accident potential.

Dell Range Boulevard and North College Avenue

This intersection experienced 34 accidents in four years. Fifty-five percent of the accidents were rear end collisions. Like the intersections at Converse Avenue and at Prairie Avenue, the large percentage of rear end collisions appears to be related to the signal operation. The recently implemented traffic signal coordination may provide a reduction in future rear end accident potential. Other improvements that may reduce accident potential include stop bar pavement markings and stop bar vehicle detection.

Dell Range Boulevard and Rue Terre

This intersection experienced 34 accidents in four years, 66 percent of which were rear end collisions. Like the other top accident experience locations, the probable contributing factor to many of these accidents may have been related to signal operation. The completion of the signal coordination is expected to reduce the incidence of rear end collisions. Other improvements that may reduce accident potential include stop bar pavement markings and stop bar vehicle detection.

Access Control

The city has adopted property access standards as contained in the Road, Street and Site Planning and Design Standards. The following excerpts define the appropriate access for Dell Range Boulevard:

"*Location of Driveways*: If a property has frontage on one or more side streets intersecting a minor or major arterial street, all access shall be limited to such side street(s) unless a traffic study, approved by the City; demonstrates that direct access to the arterial street would promote improved traffic operations and/or safety.

Number of Driveways: There shall be no more than one (1) driveway on one (1) street which is classified as a minor or major arterial street, nor more than two (2) driveways on one (1) street which is classified as a collector street for any one (1) ownership except where a single ownership is developed into more than one (1) unit of operation, each sufficient in itself to meet the requirements of off-street parking or loading, and where the necessity for separate access to the street is evidenced by a traffic study approved by the City. In such cases, there shall not be more than one (1) driveway for each one (1) unit of operation on one (1) street which is classified an arterial or collector street.

Additional driveways may be granted by the City Engineer when:

1. Daily volume using one (1) access would exceed 5,000 vehicles (both directions).

2. Traffic using one (1) driveway would exceed capacity of a stop sign controlled intersection during one (1) peak hour.

3. A traffic analysis shows that conditions warrant additional driveways

If a development generates sufficient traffic that a signal may be warranted, access traffic shall be consolidated to a single point, which can be signalized. Traffic signal spacing requirements are covered in a later section of these standards.

Access, in many cases, can be provided though joint access, which included joint driveways, access easements and frontage roads. In these situations, all parties involved shall sign the Access Permit Application, and a written mutual agreement, signed by all parties involved, must accompany the application form. The requirements of these regulations shall be met with the exception that the minimum spacing from a property line shall not apply. In the event that any party to the agreement violates any of these regulations, the access shall be removed by the applicants or by the Governing Body.

Joint access to a minor or major arterial street for adjacent developments shall be required unless a City approved traffic study demonstrates that individual access would improve traffic operations and/or safety."

These restrictions appear equitable for property owners, and generally maintain a reasonable quality of traffic operation for a corridor.

Existing or recently approved access along Dell Range Boulevard was reviewed. Only four locations violated the current City policy. These locations included:

- The right-turn in only driveway for Burger King and Barnes and Noble east of Prairie Avenue.
- The easterly driveway for Wal-Mart.
- Two driveways for the Fire Station.
- The westerly driveways for the recently approved King Soopers development.

The right-turn in only driveway for the Burger King and Barnes and Noble has not been functioning as intended, as evidenced by the outbound tire tracks pictured in the Figure 3 photo. Field observation of traffic movements also confirmed this evidence. The sidewalk ramp at the driveway, as pictured in the Figure 4 photo, can be mistaken for an exit lane. Figure 5 depicts several options for improvement of the drive. While the preferred alternative is closure for reduction in accident potential, full access or reconfiguration of the raised barrier median would be preferable to the existing conditions.

Figure 3 – Outbound Tire Tracks

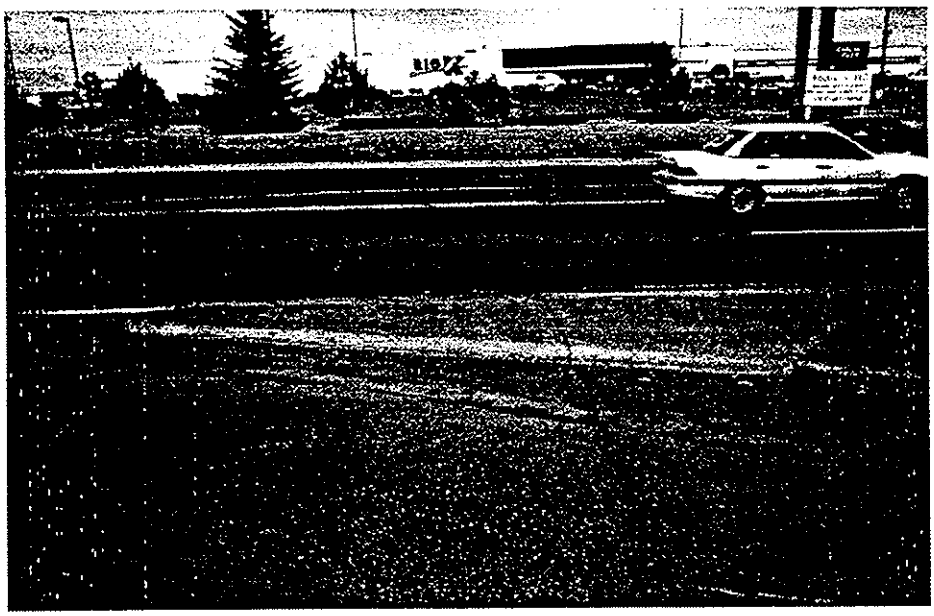


Figure 4 – Sidewalk Ramp

The easterly driveway for Wal-Mart is situated within the westbound right-turn lane for the signalized Wal-Mart entrance. This creates an opportunity for westbound right-turn vehicles approaching the signalized driveway to conflict with westbound exiting vehicles from the east driveway. Removal of the east driveway would eliminate these potential conflicts and would not deprive the Wal-Mart site of any essential access.

Although the Fire Station has two driveways, both are needed for effective fire truck circulation, and are in the interest of public safety. Furthermore, the second driveway does not generate traffic on a regular basis, but only as needed for the emergency vehicle circulation.

The westerly most driveway on the new King Soopers development appears to provide superfluous access to two high turnover restaurant pad sites. Elimination of the driveway would not be detrimental to site access, in that alternate access is provided both to Dell Range Boulevard and to Ridge Road.

Additional Access Control Guidelines

Although definitive distances for spacing of driveways may seem desirable, the current standards adopted by the City, when adhered to, provide access management even more effectively than definitive spacing distances. The Institute of Transportation Engineers (ITE) has compiled empirical data from several studies correlating various driveway spacings with speed, based on safety. For 40mph speed limits, these spacing standards vary between 185 feet and 420 feet, depending on the source of the research. This range of spacing appears consistent with actual practice in the Dell Range Boulevard corridor.

Driveway spacing adjacent to a signalized intersection is perhaps of greater concern. Generally, driveways should be prohibited within the area influenced by a signalized intersection. This includes the distance back from the stop bar that traffic is likely to queue on the approach, and also includes the length of a minimal right-turn-bay downstream from an intersection. The queuing distance back from the stop

bar should be determined based upon traffic analysis as the distance for the first driveway, conservatively at one-eighth mile for a 40mph street. Generally, the analysis will provide for a shorter distance. The downstream spacing should allow a minimum of 150 feet between the street curb return and the driveway curb return. This provides sufficient room for the construction of a minimal auxiliary right-turn lane in to the property.

Alternative Access Options

The difficulty in general with access on Dell Range Boulevard has not been violations of the City policies so much as constraint by the drainage ditch running north of and parallel to Dell Range Boulevard. This ditch has segregated properties along the north side of Dell Range Boulevard between Grandview Avenue and Ridge Road, so that economic access is available only on to Dell Range Boulevard.

The properties located on either side of Grandview Avenue have access only via Grandview Avenue to Dell Range Boulevard. Traffic circulation from these businesses could be improved through connection of Grandview Avenue north to Converse Avenue, west to the Wal-Mart property, or east to Converse Avenue south of the Post Office property. The connection to the north is undesirable in that motorists desire to drive south to Dell Range Boulevard, rather than to be diverted north to Converse Avenue to get back to Dell Range Boulevard. The connection of Grandview Avenue to the west into the Wal-Mart property is also undesirable, in that it would permit traffic to flow across the Wal-Mart parking lot, rather than remain on public streets. The third option of constructing a connection east to Converse Avenue, while more expensive than the other two options, would provide for safer and more efficient traffic circulation, and would open the property south of the Post Office for development.

The improvement could be funded with City monies, or in part as a benefit district to the properties now accessed by Grandview Avenue. Figure 6 illustrates these access alternatives. The option of signalizing the Grandview Avenue and Dell Range Boulevard instead of providing alternate access is not viable because of Grandview Avenue's proximity to the traffic signal at the Wal-Mart entrance. The spacing between the two intersections is too close for efficient signal operation.

Between Converse Avenue and Ridge Road, the ditch parallels Dell Range Boulevard in a way that permits most properties to access Dell Range Boulevard only. Left turns out of these properties can be very difficult during peak periods. The creation of joint access easements along the south side of the ditch along the rear of the properties would provide alternative access to side streets from these properties. This alternative access could be provided to Converse Avenue, Mountain Road, Windmill Road, and Hilltop. In addition, Lindenway could also be extended between Sheridan Avenue and Dell Range Boulevard to provide an additional crossing of the ditch. Whereas, it would be desirable for property owners to voluntarily pursue this access improvement, the City may need to act as a facilitator, or even the prime initiator in some cases to accomplish this improvement. Other access related improvements include the extension of Bluegrass east to align with the Wal-Mart entrance. Also a master street plan should be developed for the area north of Prairie Avenue between Converse Avenue and Powderhouse Road for future orderly development of vacant land. Figures 7, 8 and 9 illustrate the locations of these improvements along with others.

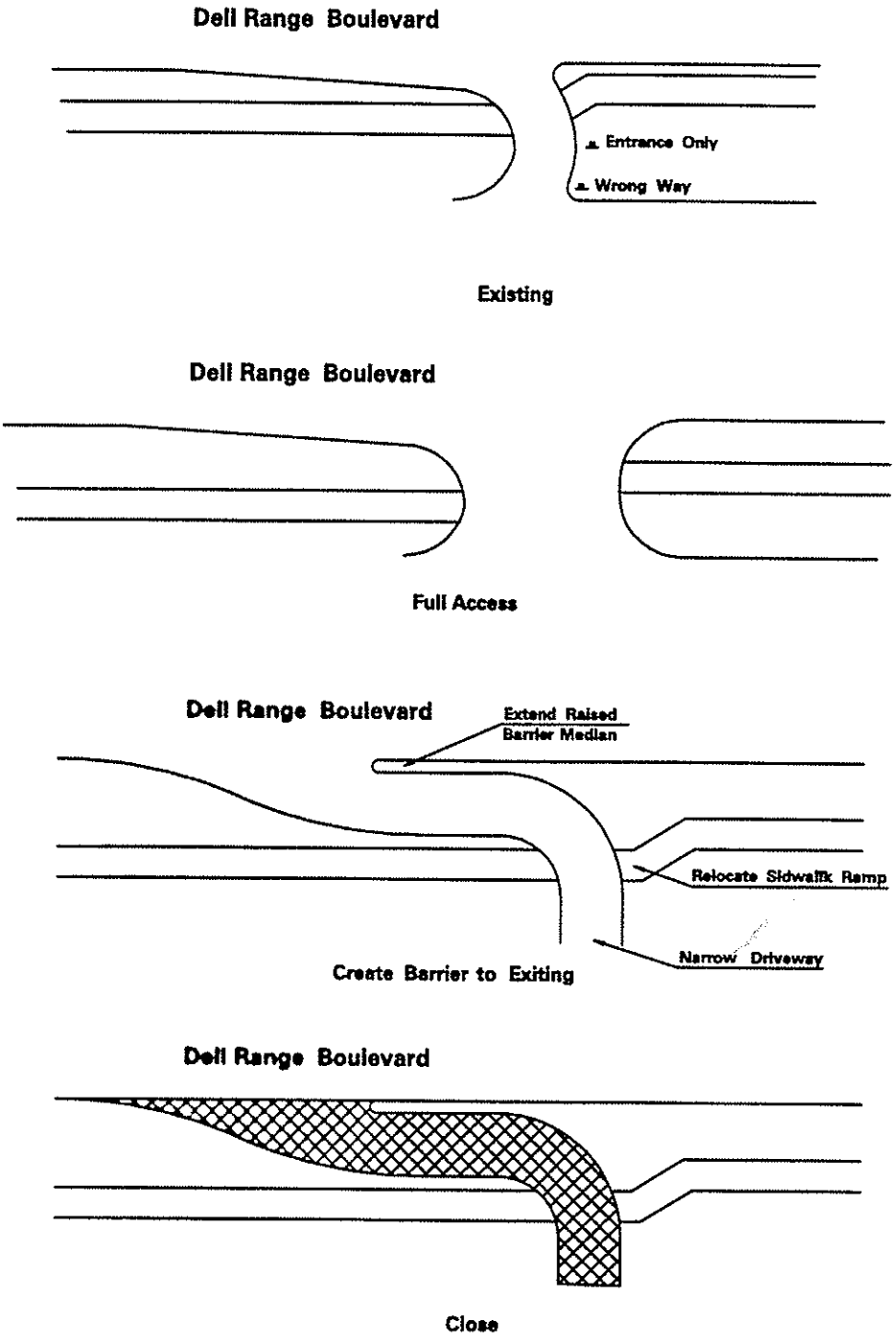


Figure 5 Eastbound Drive East of Prairie: Improvement Options

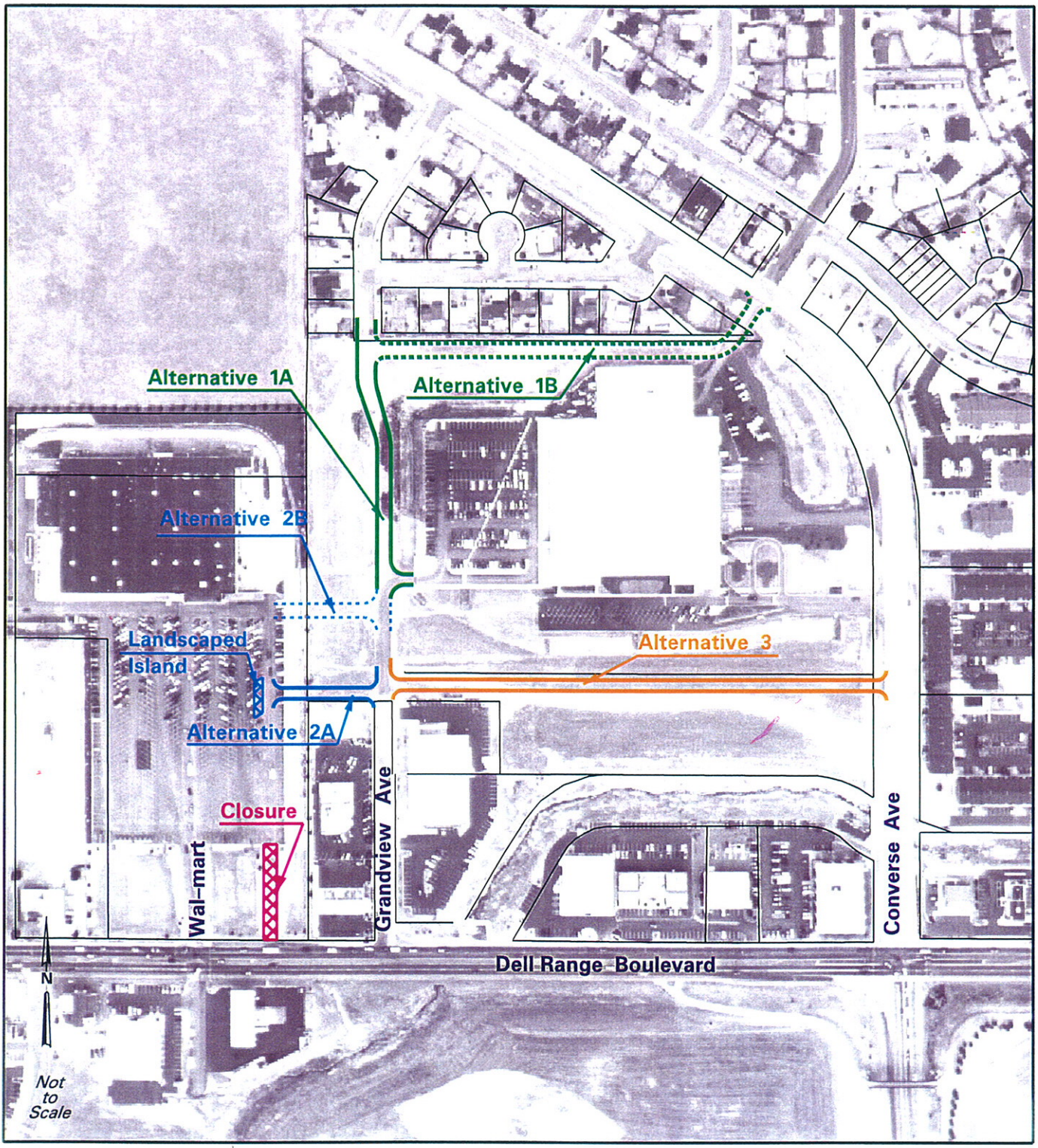


Figure 6 Grandview Avenue Access

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Improvement Options

Figures 7, 8 and 9 illustrate the suggested options for improvement of traffic safety and operation in the corridor. These options include:

- Improve Converse Avenue through construction of a northbound right-turn lane, which would allow for a change in lane designation and a change in signal phasing. Following completion of this improvement, the Dell Range Boulevard corridor signals should be retimed.
- Change the lane usage and signal phasing for Prairie Avenue.
- Provide stop bar vehicle detection at all signals in the corridor. Along with the detector improvements, provide left-turn arrow indications for westbound traffic at Rue Terre and at Wal-Mart.
- Provide permanent stop-bar pavement markings for all signalized intersections.
- Construct a public street east from Grandview Avenue to Converse Avenue south of the Post Office.
- Assist property owners along the north side of Dell Range Boulevard, between Grandview Avenue and Hilltop, in developing joint access easements.
- Extend Lindenway between Sheridan Avenue and Dell Range Boulevard.
- Extend Bluegrass east to the Wal-Mart entrance.
- Close the following driveways off Dell Range Boulevard to:
    a) Burger King / Barnes and Noble
    b) The east Wal-Mart drive.
    c) The west King Soopers driveway to the west pad site.
- Develop a future street plan for the undeveloped area north of Prairie Avenue.

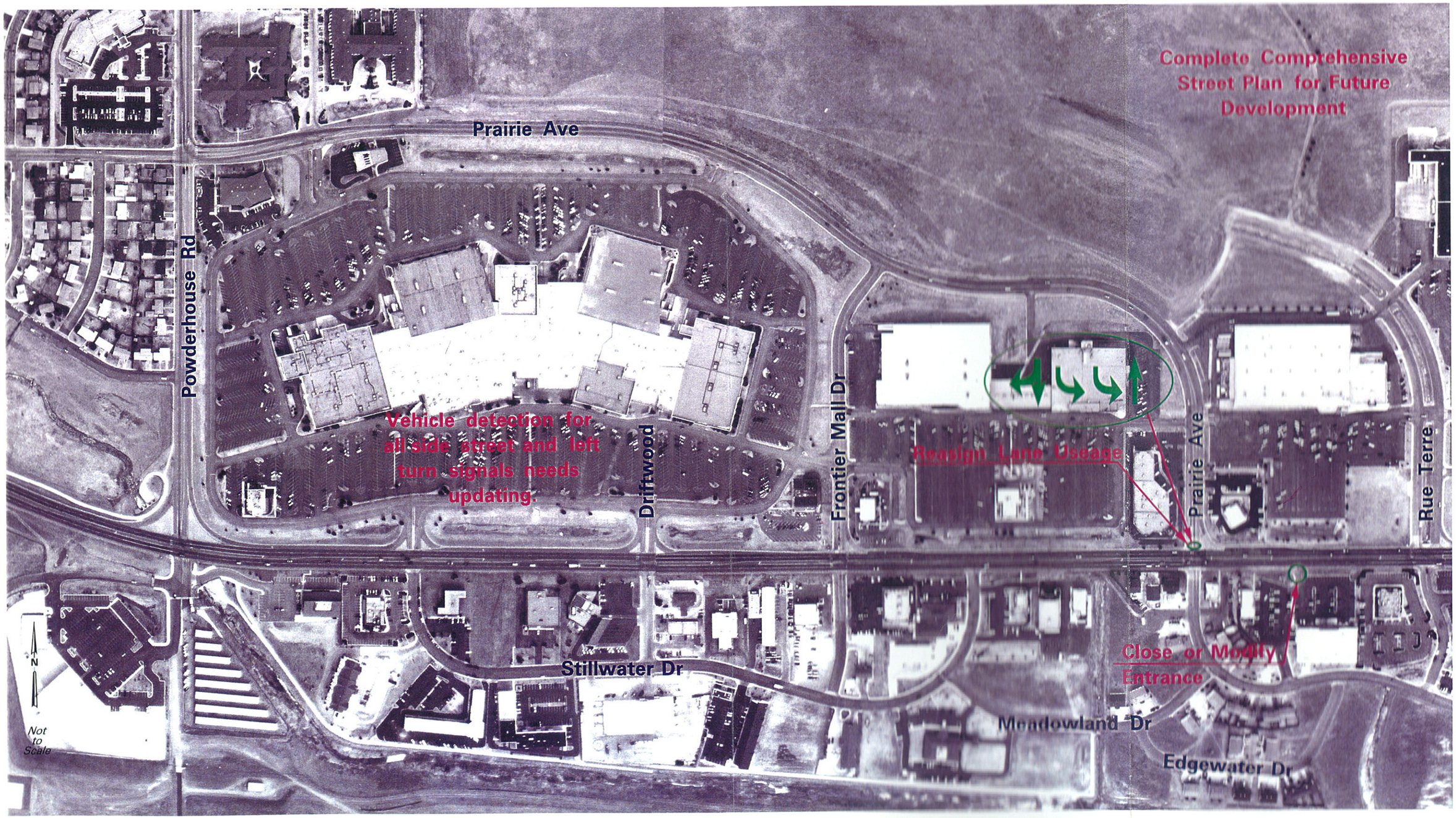

Figure 7 Corridor Improvement Options

K:\ 20008T\twr\dgn\figure7.dgn

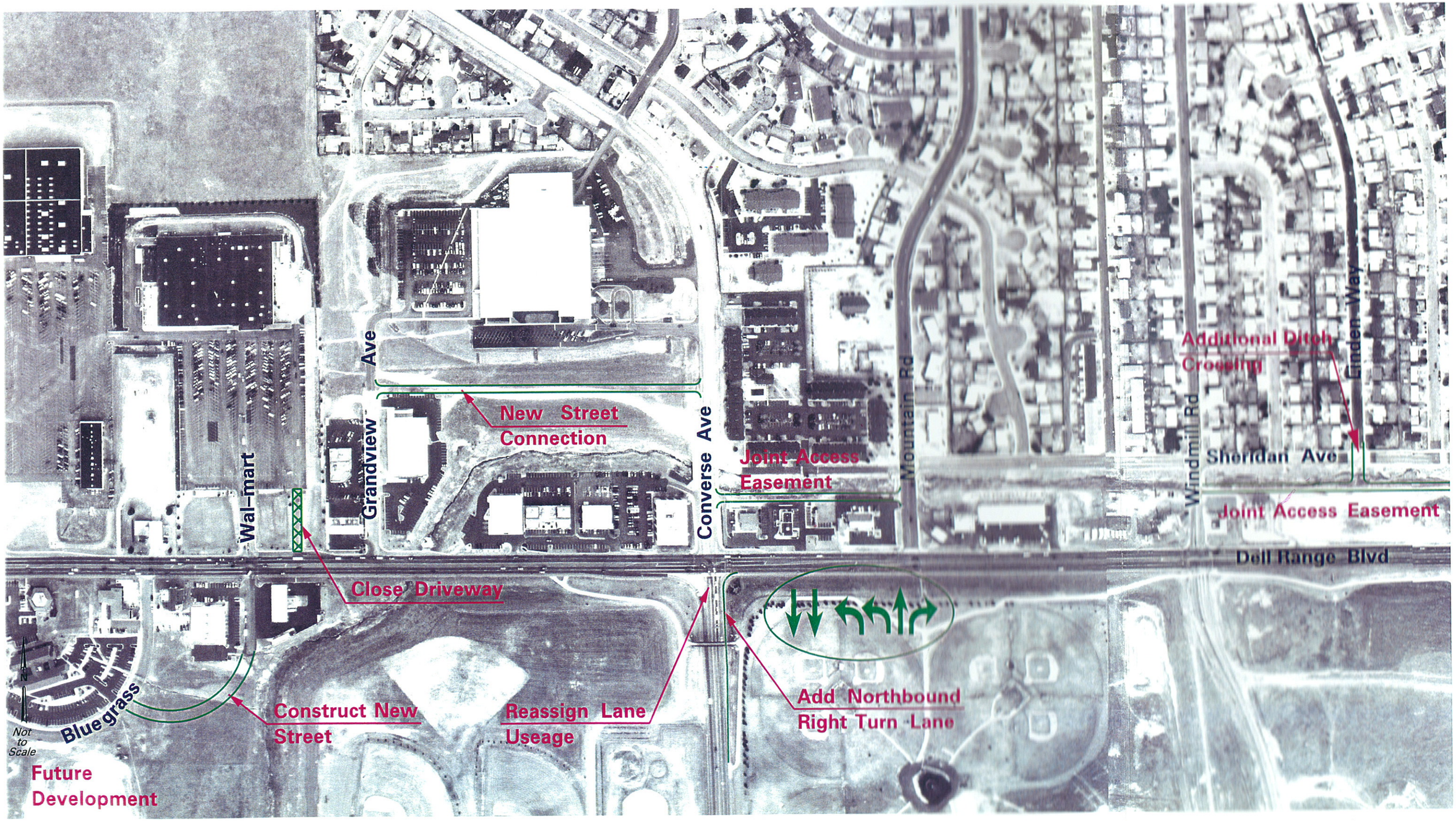

Figure 8 Corridor Improvemet Options

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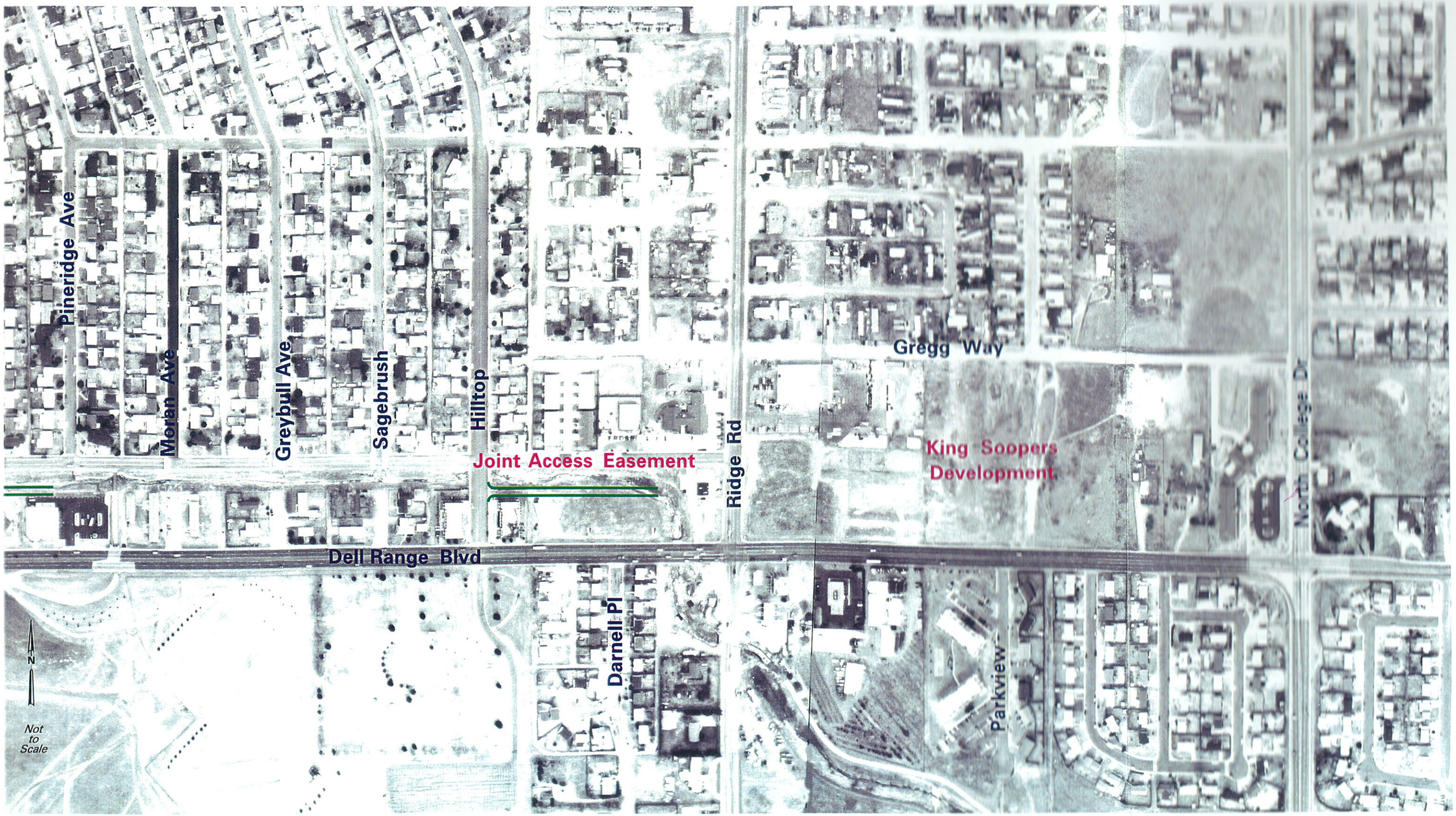

Figure 9 Corridor Improvement Options

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Comparison with Previous Recommendations

The 1992 report recommendations and the corresponding findings of this study are compared in the following summary.

Table 7 – Recommendation Comparison Summary

1992 Recommendations	2000 Findings
Signal re-timing	Completed in 1999
Deactivate Driftwood Road signal	Deactivation not necessary
No new signals recommended	None installed
Southbound, double left lanes at Prairie Avenue needed	Full double left lanes, not shared lanes, are still needed.
Connection through Wal-Mart between Rue Terre and Converse Avenue	Connection between Grandview Avenue and Converse Avenue recommended.
Easterly Wal-Mart entrance should be closed	Easterly Wal-Mart entrance should be closed.
Extend Converse Avenue north into residential area	Has been completed
Retain Rue Terre signal	Has been completed
Reactivate Driftwood Drive signal	Still operational
Limit access at Stillwater Avenue to right-turn only	Right-turn only not effective or needed
Extend Bluegrass Avenue east to Wal-Mart	Should extend Bluegrass Avenue east to Wal-Mart
Northbound exclusive double left lanes needed at Converse Avenue	Northbound exclusive double left lanes needed at Converse Avenue. Achieve through adding northbound right lane.
Westbound double left-turn lanes needed at Converse Avenue	Not needed
Provide alternative access to properties east of Mountain Road	Provide alternative access to properties east of Mountain Road through joint access easements
Off-street bicycle trail	Implemented
General access recommendations	Implemented

Improvement Plan Benefits

Traffic signal timings were improved throughout the Dell Range Boulevard corridor in late 1999. These improved timings were expected to contribute to accident reduction at the major intersections. In addition, pavement marking improvements and minor signal improvements have been recommended for the major intersections. With the exception of the Converse Avenue and Dell Range Boulevard intersection, the cost for improvements at each of the major intersections is expected to be in the magnitude of $20,000 in year 2000 dollars, for budgeting purposes. The cost for the improvement of the Converse Avenue and Dell Range Boulevard intersection is expected to be in the magnitude of $360,000 in year 2000 dollars, for budgeting purposes.

A reduction in accident potential has been estimated for each implementation of the strategies. This estimate has been based on empirical data as derived from the *Manual on Identification and Correction of High-Accident Locations*, published by the Kansas Department of Transportation and the Missouri Department of Transportation. The accident reduction estimate was applied to the 1996 through 1999 accident experience for a resultant accident reduction benefit for the suggested improvements. Furthermore, this accident reduction benefit can be translated into an economic benefit by assigning an average damage estimate for each accident.

The Wyoming Department of Transportation (WyDot) currently uses an average damage value of $3,000 for each property damage only (PDO) accident, of $14,000 for each injury accident, and of $1,500,000 for each fatal accident. Tabulation of the estimated accident reduction and annual economic benefit-associated with the suggested improvements, has been included in the appendix.

The suggested improvements also bear a cost of implementation. This cost can be amortized over the expected life of the improvements. Thus, an annual cost of the improvements can be compared to an expected annual benefit. A comparison of benefit to cost that results in a ratio greater than 1 is considered to be an economical improvement. Tables in the appendix depict total and annual costs and the benefit cost ratio for the suggested intersection improvements. All the recommended improvements are cost efficient.

Empirical accident reduction data for improving access to Grandview Avenue and to isolated properties along the north side of Dell Range Boulevard is not available for analysis.

RESOLUTION NO. 4092

RESOLUTION NO. 4092

MB Guthrie 5-17-00

ENTITLED: A RESOLUTION TO ADOPT "THE DELL RANGE BOULEVARD CORRIDOR STUDY" AND THE "DELL RANGE BOULEVARD AND CONVERSE AVENUE INTERSECTION STUDY" PREPARED BY BUCHER, WILLIS & RATLIFF FOR THE CITY OF CHEYENNE.

WHEREAS, State Farm Mutual Insurance Company along with the City of Cheyenne has identified the Dell Range Boulevard and Converse Avenue intersection to have the most crashes than any other intersection in the Cheyenne Area; and

WHEREAS, State Farm Mutual Insurance Company provided grants nationwide to analyze and provide recommendations on the selected intersections in hopes of reducing crash numbers, severity, and injuries; and

WHEREAS, The Cheyenne Area Transportation Planning Process furthermore recognizes the same need to analyze the Dell Range Corridor between Powderhouse Road and College Drive as there are many traffic problems which have been identified by citizens and business owners alike; and

WHEREAS, the City of Cheyenne adopted Resolution No. 3280 and the recommendation of the "Dell Range Arterial Study" in 1992, and that this study should be reviewed and reevaluated; and

WHEREAS, Dell Range Boulevard carries up to approximately 34,000 vehicles a day and the City of Cheyenne desires to maintain and increase, when possible, the traffic carrying capability and efficiency of this corridor by providing good mobility, access control, and safety for the traveling public while maintaining the best possible access for the existing and future businesses.

NOW, THEREFORE, BE IT RESOLVED BY THE GOVERNING BODY OF THE CITY OF CHEYENNE, WYOMING:

That the "DELL RANGE BOULEVARD CORRIDOR STUDY" and the "DELL RANGE BOULEVARD AND CONVERSE AVENUE INTERSECTION STUDY" prepared by Bucher, Willis & Ratliff for the City of Cheyenne be adopted as the traffic and transportation plan for the Dell Range corridor between Powderhouse Road and College Drive and the suggested recommendations be implemented by the City of Cheyenne when necessary and appropriate.

PRESENTED, READ AND ADOPTED this 26th day of June, 2000

Leo A. Pando

Leo A. Pando, Mayor

(seal)

ATTEST:

Carol A. Intlekofer

Carol A. Intlekofer, City Clerk

APPENDIX

- Traffic Volumes
- Intersection Capacity
- Intersection Queue
- Queuing Analysis
- Travel Times
- Accident Reduction Benefit Summary
- Intersection Improvement Costs
  (Converse/Dell Range & Grandview-Converse)

Traffic Volumes

NU-METRICS Traffic Analyzer Study
Computer Generated Summary Report
Route: Dell Range E. of Frontier Mall
Location: Dell Range E. of Frontier Mall

A study of vehicle traffic was conducted with HI-STAR unit number 603. The study was done in the WB OUT lane on Dell Range E. of Frontier Mall in Cheyenne, WY in Laramie county. The study began on 06/02/1999 at 03:00 PM and concluded on 06/03/1999 at 03:00 PM, lasting a total of 24 hours. Data was recorded in 15 minute time periods. The total recorded volume of traffic showed 7,211 vehicles passed through the location with a peak volume of 163 on 06/03/1999 at 12:45 PM and a minimum volume of 1 on 06/03/1999 at 03:30 AM.

SPEED

Chart 1 lists the values of the speed bins and the total traffic volume for each bin.

Chart 1

< 10	10	15	20	25	30	35	40	45	50	55	60	65	70	> 71
0	27	63	198	810	2156	2181	1004	312	77	23	14	8	1	11

Half of the vehicles were traveling at 35 Mph or a lower speed. The average speed for all classified vehicles was 33 Mph with 6.48 percent exceeding the posted speed of 40 Mph. The HI-STAR found 0.49 percent of the total vehicles were traveling in excess of 55 Mph. The mode speed for this traffic study was 35 Mph and the 85th percentile was 37.58 Mph.

CLASSIFICATION

Chart 2 lists the values of the eight classification bins and the total traffic volume accumulated for each bin.

Chart 2

< 20	20	28	40	50	60	70	> 71
5404	1251	174	30	14	8	0	4

Most of the vehicles classified during the study were Passenger Cars. The number of Passenger Cars in the study was 6655 which represents 96.70 percent of the total classifed vehicles. The number of Small Trucks in the study was 174 which represents 2.50 percent of the total classifed vehicles. The number of Trucks/Busses in the study was 30 which represents 0.40 percent of the total classifed vehicles. The number of Tractor Trailers in the study was 26 which represents 0.40 percent of the total classifed vehicles.

HEADWAY

During the peak time period, on 06/03/1999 at 12:45 PM the average headway between the vehicles was 5.49 seconds. The slowest traffic period was on 06/03/1999 at 03:30 AM. During this slowest period, the average headway was 450.0 seconds.

WEATHER

The roadway surface temperature over the period of the study varied between 52 and 115 degrees Fahrenheit. The HI-STAR determined that the roadway surface was Dry 100.00 percent of the time.

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 603	Begin: 06/02/1999 03:00 PM	End: 06/03/1999 03:00 PM
Street: Dell Range E. of Frontier Mall	Lane: WB OUT	Hours: 24.00
State: WY	Oper: RS	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 7211
County: Laramie	AADT Factor: 1	AADT Count: 7211

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
06/02/1999 [03:00 PM-03:15 PM]	114	033 Mph	113 F	Dry
06/02/1999 [03:15 PM-03:30 PM]	122	032 Mph	113 F	Dry
06/02/1999 [03:30 PM-03:45 PM]	116	032 Mph	109 F	Dry
06/02/1999 [03:45 PM-04:00 PM]	126	034 Mph	101 F	Dry
06/02/1999 [04:00 PM-04:15 PM]	130	032 Mph	95 F	Dry
06/02/1999 [04:15 PM-04:30 PM]	130	035 Mph	89 F	Dry
06/02/1999 [04:30 PM-04:45 PM]	140	033 Mph	87 F	Dry
06/02/1999 [04:45 PM-05:00 PM]	131	034 Mph	85 F	Dry
06/02/1999 [05:00 PM-05:15 PM]	152	034 Mph	83 F	Dry
06/02/1999 [05:15 PM-05:30 PM]	144	035 Mph	83 F	Dry
06/02/1999 [05:30 PM-05:45 PM]	117	034 Mph	83 F	Dry
06/02/1999 [05:45 PM-06:00 PM]	159	033 Mph	82 F	Dry
06/02/1999 [06:00 PM-06:15 PM]	130	032 Mph	80 F	Dry
06/02/1999 [06:15 PM-06:30 PM]	142	031 Mph	80 F	Dry
06/02/1999 [06:30 PM-06:45 PM]	128	031 Mph	80 F	Dry
06/02/1999 [06:45 PM-07:00 PM]	124	031 Mph	80 F	Dry
06/02/1999 [07:00 PM-07:15 PM]	128	032 Mph	78 F	Dry
06/02/1999 [07:15 PM-07:30 PM]	110	032 Mph	78 F	Dry
06/02/1999 [07:30 PM-07:45 PM]	111	033 Mph	76 F	Dry
06/02/1999 [07:45 PM-08:00 PM]	114	033 Mph	76 F	Dry
06/02/1999 [08:00 PM-08:15 PM]	96	033 Mph	76 F	Dry
06/02/1999 [08:15 PM-08:30 PM]	99	032 Mph	74 F	Dry
06/02/1999 [08:30 PM-08:45 PM]	84	031 Mph	74 F	Dry
06/02/1999 [08:45 PM-09:00 PM]	72	032 Mph	72 F	Dry
06/02/1999 [09:00 PM-09:15 PM]	72	032 Mph	72 F	Dry
06/02/1999 [09:15 PM-09:30 PM]	79	034 Mph	70 F	Dry
06/02/1999 [09:30 PM-09:45 PM]	68	032 Mph	66 F	Dry
06/02/1999 [09:45 PM-10:00 PM]	48	033 Mph	62 F	Dry
06/02/1999 [10:00 PM-10:15 PM]	50	033 Mph	62 F	Dry
06/02/1999 [10:15 PM-10:30 PM]	33	033 Mph	60 F	Dry
06/02/1999 [10:30 PM-10:45 PM]	26	035 Mph	60 F	Dry
06/02/1999 [10:45 PM-11:00 PM]	19	034 Mph	60 F	Dry
06/02/1999 [11:00 PM-11:15 PM]	18	038 Mph	58 F	Dry
06/02/1999 [11:15 PM-11:30 PM]	16	036 Mph	58 F	Dry
06/02/1999 [11:30 PM-11:45 PM]	20	036 Mph	56 F	Dry
06/02/1999 [11:45 PM-12:00 AM]	5	032 Mph	56 F	Dry
06/03/1999 [12:00 AM-12:15 AM]	13	035 Mph	56 F	Dry
06/03/1999 [12:15 AM-12:30 AM]	11	037 Mph	56 F	Dry
06/03/1999 [12:30 AM-12:45 AM]	7	036 Mph	56 F	Dry
06/03/1999 [12:45 AM-01:00 AM]	4	038 Mph	56 F	Dry
06/03/1999 [01:00 AM-01:15 AM]	2	035 Mph	56 F	Dry
06/03/1999 [01:15 AM-01:30 AM]	2	032 Mph	56 F	Dry
06/03/1999 [01:30 AM-01:45 AM]	3	037 Mph	56 F	Dry
06/03/1999 [01:45 AM-02:00 AM]	6	038 Mph	56 F	Dry
06/03/1999 [02:00 AM-02:15 AM]	3	038 Mph	56 F	Dry
06/03/1999 [02:15 AM-02:30 AM]	2	030 Mph	56 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 603	Begin: 06/02/1999 03:00 PM	End: 06/03/1999 03:00 PM
Street: Dell Range E. of Frontier Mall	Lane: WB OUT	Hours: 24.00
State: WY	Oper: RS	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 7211
County: Laramie	AADT Factor: 1	AADT Count: 7211

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
06/03/1999 [02:30 AM-02:45 AM]	2	042 Mph	56 F	Dry
06/03/1999 [02:45 AM-03:00 AM]	2	042 Mph	54 F	Dry
06/03/1999 [03:00 AM-03:15 AM]	2	053 Mph	54 F	Dry
06/03/1999 [03:15 AM-03:30 AM]	2	042 Mph	54 F	Dry
06/03/1999 [03:30 AM-03:45 AM]	1	045 Mph	54 F	Dry
06/03/1999 [03:45 AM-04:00 AM]	3	042 Mph	54 F	Dry
06/03/1999 [04:00 AM-04:15 AM]	3	035 Mph	54 F	Dry
06/03/1999 [04:15 AM-04:30 AM]	3	037 Mph	52 F	Dry
06/03/1999 [04:30 AM-04:45 AM]	4	044 Mph	52 F	Dry
06/03/1999 [04:45 AM-05:00 AM]	11	040 Mph	52 F	Dry
06/03/1999 [05:00 AM-05:15 AM]	11	042 Mph	52 F	Dry
06/03/1999 [05:15 AM-05:30 AM]	13	036 Mph	52 F	Dry
06/03/1999 [05:30 AM-05:45 AM]	22	038 Mph	52 F	Dry
06/03/1999 [05:45 AM-06:00 AM]	34	040 Mph	52 F	Dry
06/03/1999 [06:00 AM-06:15 AM]	37	037 Mph	54 F	Dry
06/03/1999 [06:15 AM-06:30 AM]	41	037 Mph	54 F	Dry
06/03/1999 [06:30 AM-06:45 AM]	70	037 Mph	54 F	Dry
06/03/1999 [06:45 AM-07:00 AM]	76	037 Mph	56 F	Dry
06/03/1999 [07:00 AM-07:15 AM]	60	038 Mph	60 F	Dry
06/03/1999 [07:15 AM-07:30 AM]	87	036 Mph	64 F	Dry
06/03/1999 [07:30 AM-07:45 AM]	92	038 Mph	66 F	Dry
06/03/1999 [07:45 AM-08:00 AM]	91	037 Mph	68 F	Dry
06/03/1999 [08:00 AM-08:15 AM]	66	039 Mph	72 F	Dry
06/03/1999 [08:15 AM-08:30 AM]	54	035 Mph	76 F	Dry
06/03/1999 [08:30 AM-08:45 AM]	67	035 Mph	78 F	Dry
06/03/1999 [08:45 AM-09:00 AM]	72	034 Mph	80 F	Dry
06/03/1999 [09:00 AM-09:15 AM]	65	033 Mph	83 F	Dry
06/03/1999 [09:15 AM-09:30 AM]	69	033 Mph	85 F	Dry
06/03/1999 [09:30 AM-09:45 AM]	97	033 Mph	87 F	Dry
06/03/1999 [09:45 AM-10:00 AM]	102	032 Mph	91 F	Dry
06/03/1999 [10:00 AM-10:15 AM]	101	032 Mph	93 F	Dry
06/03/1999 [10:15 AM-10:30 AM]	97	033 Mph	97 F	Dry
06/03/1999 [10:30 AM-10:45 AM]	102	033 Mph	97 F	Dry
06/03/1999 [10:45 AM-11:00 AM]	97	033 Mph	99 F	Dry
06/03/1999 [11:00 AM-11:15 AM]	94	032 Mph	101 F	Dry
06/03/1999 [11:15 AM-11:30 AM]	113	032 Mph	103 F	Dry
06/03/1999 [11:30 AM-11:45 AM]	118	033 Mph	105 F	Dry
06/03/1999 [11:45 AM-12:00 PM]	138	032 Mph	109 F	Dry
06/03/1999 [12:00 PM-12:15 PM]	156	033 Mph	109 F	Dry
06/03/1999 [12:15 PM-12:30 PM]	155	033 Mph	107 F	Dry
06/03/1999 [12:30 PM-12:45 PM]	155	032 Mph	107 F	Dry
06/03/1999 [12:45 PM-01:00 PM]	163	032 Mph	109 F	Dry
06/03/1999 [01:00 PM-01:15 PM]	141	031 Mph	107 F	Dry
06/03/1999 [01:15 PM-01:30 PM]	138	030 Mph	107 F	Dry
06/03/1999 [01:30 PM-01:45 PM]	142	031 Mph	111 F	Dry
06/03/1999 [01:45 PM-02:00 PM]	146	030 Mph	113 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 603	Begin: 06/02/1999 03:00 PM	End: 06/03/1999 03:00 PM
Street: Dell Range E. of Frontier Mall	Lane: WB OUT	Hours: 24.00
State: WY	Oper: RS	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 7211
County: Laramie	AADT Factor: 1	AADT Count: 7211

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
06/03/1999 [02:00 PM-02:15 PM]	125	032 Mph	111 F	Dry
06/03/1999 [02:15 PM-02:30 PM]	108	032 Mph	115 F	Dry
06/03/1999 [02:30 PM-02:45 PM]	128	032 Mph	115 F	Dry
06/03/1999 [02:45 PM-03:00 PM]	109	033 Mph	115 F	Dry

NU-METRICS Traffic Analyzer Study
Computer Generated Summary Report
Route: Dell Range E. of Frontier Mall
Location: Dell Range E. of Frontier Mall

A study of vehicle traffic was conducted with HI-STAR unit number 594. The study was done in the WB IN lane on Dell Range E. of Frontier Mall in Cheyenne, WY in Laramie county. The study began on 06/02/1999 at 03:00 PM and concluded on 06/03/1999 at 03:00 PM, lasting a total of 24 hours. Data was recorded in 15 minute time periods. The total recorded volume of traffic showed 4,943 vehicles passed through the location with a peak volume of 138 on 06/03/1999 at 12:45 PM and a minimum volume of 0 on 06/03/1999 at 02:45 AM.

SPEED

Chart 1 lists the values of the speed bins and the total traffic volume for each bin.

Chart 1

< 10	10	15	20	25	30	35	40	45	50	55	60	65	70	> 71
0	40	100	263	615	1164	1265	668	237	76	24	19	16	2	16

Half of the vehicles were traveling at 35 Mph or a lower speed. The average speed for all classified vehicles was 33 Mph with 8.66 percent exceeding the posted speed of 40 Mph. The HI-STAR found 1.18 percent of the total vehicles were traveling in excess of 55 Mph. The mode speed for this traffic study was 35 Mph and the 85th percentile was 38.36 Mph.

CLASSIFICATION

Chart 2 lists the values of the eight classification bins and the total traffic volume accumulated for each bin.

Chart 2

< 20	20	28	40	50	60	70	> 71
4308	136	43	10	4	3	0	1

Most of the vehicles classified during the study were Passenger Cars. The number of Passenger Cars in the study was 4444 which represents 98.60 percent of the total classifed vehicles. The number of Small Trucks in the study was 43 which represents 1.00 percent of the total classifed vehicles. The number of Trucks/Busses in the study was 10 which represents 0.20 percent of the total classifed vehicles. The number of Tractor Trailers in the study was 8 which represents 0.20 percent of the total classifed vehicles.

HEADWAY

During the peak time period, on 06/03/1999 at 12:45 PM the average headway between the vehicles was 6.47 seconds. The slowest traffic period was on 06/03/1999 at 02:45 AM. During this slowest period, the average headway was 900.0 seconds.

WEATHER

The roadway surface temperature over the period of the study varied between 52 and 117 degrees Fahrenheit. The HI-STAR determined that the roadway surface was Dry 100.00 percent of the time.

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 594	Begin: 06/02/1999 03:00 PM	End: 06/03/1999 03:00 PM
Street: Dell Range E. of Frontier Mall	Lane: WB IN	Hours: 24.00
State: WY	Oper: RS	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 4943
County: Laramie	AADT Factor: 1	AADT Count: 4943

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
06/02/1999 [03:00 PM-03:15 PM]	81	032 Mph	113 F	Dry
06/02/1999 [03:15 PM-03:30 PM]	78	032 Mph	113 F	Dry
06/02/1999 [03:30 PM-03:45 PM]	75	031 Mph	111 F	Dry
06/02/1999 [03:45 PM-04:00 PM]	87	031 Mph	101 F	Dry
06/02/1999 [04:00 PM-04:15 PM]	83	032 Mph	97 F	Dry
06/02/1999 [04:15 PM-04:30 PM]	75	034 Mph	91 F	Dry
06/02/1999 [04:30 PM-04:45 PM]	84	034 Mph	87 F	Dry
06/02/1999 [04:45 PM-05:00 PM]	90	033 Mph	87 F	Dry
06/02/1999 [05:00 PM-05:15 PM]	100	034 Mph	83 F	Dry
06/02/1999 [05:15 PM-05:30 PM]	92	033 Mph	85 F	Dry
06/02/1999 [05:30 PM-05:45 PM]	78	033 Mph	83 F	Dry
06/02/1999 [05:45 PM-06:00 PM]	100	034 Mph	82 F	Dry
06/02/1999 [06:00 PM-06:15 PM]	92	032 Mph	80 F	Dry
06/02/1999 [06:15 PM-06:30 PM]	90	032 Mph	80 F	Dry
06/02/1999 [06:30 PM-06:45 PM]	72	032 Mph	80 F	Dry
06/02/1999 [06:45 PM-07:00 PM]	76	032 Mph	80 F	Dry
06/02/1999 [07:00 PM-07:15 PM]	67	032 Mph	78 F	Dry
06/02/1999 [07:15 PM-07:30 PM]	73	033 Mph	78 F	Dry
06/02/1999 [07:30 PM-07:45 PM]	64	030 Mph	76 F	Dry
06/02/1999 [07:45 PM-08:00 PM]	60	032 Mph	76 F	Dry
06/02/1999 [08:00 PM-08:15 PM]	73	032 Mph	76 F	Dry
06/02/1999 [08:15 PM-08:30 PM]	66	030 Mph	74 F	Dry
06/02/1999 [08:30 PM-08:45 PM]	50	028 Mph	74 F	Dry
06/02/1999 [08:45 PM-09:00 PM]	47	030 Mph	72 F	Dry
06/02/1999 [09:00 PM-09:15 PM]	46	033 Mph	70 F	Dry
06/02/1999 [09:15 PM-09:30 PM]	40	035 Mph	68 F	Dry
06/02/1999 [09:30 PM-09:45 PM]	33	032 Mph	64 F	Dry
06/02/1999 [09:45 PM-10:00 PM]	34	031 Mph	62 F	Dry
06/02/1999 [10:00 PM-10:15 PM]	22	036 Mph	60 F	Dry
06/02/1999 [10:15 PM-10:30 PM]	15	034 Mph	58 F	Dry
06/02/1999 [10:30 PM-10:45 PM]	17	034 Mph	58 F	Dry
06/02/1999 [10:45 PM-11:00 PM]	13	037 Mph	58 F	Dry
06/02/1999 [11:00 PM-11:15 PM]	15	030 Mph	58 F	Dry
06/02/1999 [11:15 PM-11:30 PM]	12	035 Mph	56 F	Dry
06/02/1999 [11:30 PM-11:45 PM]	9	033 Mph	56 F	Dry
06/02/1999 [11:45 PM-12:00 AM]	3	028 Mph	56 F	Dry
06/03/1999 [12:00 AM-12:15 AM]	9	037 Mph	56 F	Dry
06/03/1999 [12:15 AM-12:30 AM]	6	037 Mph	56 F	Dry
06/03/1999 [12:30 AM-12:45 AM]	3	042 Mph	56 F	Dry
06/03/1999 [12:45 AM-01:00 AM]	3	022 Mph	56 F	Dry
06/03/1999 [01:00 AM-01:15 AM]	4	038 Mph	56 F	Dry
06/03/1999 [01:15 AM-01:30 AM]	5	035 Mph	56 F	Dry
06/03/1999 [01:30 AM-01:45 AM]	2	028 Mph	54 F	Dry
06/03/1999 [01:45 AM-02:00 AM]	3	030 Mph	54 F	Dry
06/03/1999 [02:00 AM-02:15 AM]	1	025 Mph	54 F	Dry
06/03/1999 [02:15 AM-02:30 AM]	4	025 Mph	54 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 594	Begin: 06/02/1999 03:00 PM	End: 06/03/1999 03:00 PM
Street: Dell Range E. of Frontier Mall	Lane: WB IN	Hours: 24.00
State: WY	Oper: RS	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 4943
County: Laramie	AADT Factor: 1	AADT Count: 4943

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
06/03/1999 [02:00 PM-02:15 PM]	89	030 Mph	115 F	Dry
06/03/1999 [02:15 PM-02:30 PM]	102	033 Mph	117 F	Dry
06/03/1999 [02:30 PM-02:45 PM]	84	031 Mph	117 F	Dry
06/03/1999 [02:45 PM-03:00 PM]	79	030 Mph	117 F	Dry

NU-METRICS Traffic Analyzer Study
Computer Generated Summary Report
Route: Dell Range E. of Frontier Mall
Location: Dell Range E. of Frontier Mall

A study of vehicle traffic was conducted with HI-STAR unit number 2521. The study was done in the EB OUT lane on Dell Range E. of Frontier Mall in Cheyenne, WY in Laramie county. The study began on 06/02/1999 at 03:00 PM and concluded on 06/03/1999 at 03:00 PM, lasting a total of 24 hours. Data was recorded in 15 minute time periods. The total recorded volume of traffic showed 5,558 vehicles passed through the location with a peak volume of 161 on 06/02/1999 at 05:00 PM and a minimum volume of 1 on 06/03/1999 at 01:45 AM.

SPEED

Chart 1 lists the values of the speed bins and the total traffic volume for each bin.

Chart 1

< 10	10	15	20	25	30	35	40	45	50	55	60	65	70	> 71
0	18	136	392	631	1561	1549	749	226	52	14	5	5	0	1

Half of the vehicles were traveling at 30 Mph or a lower speed. The average speed for all classified vehicles was 32 Mph with 5.68 percent exceeding the posted speed of 40 Mph. The HI-STAR found 0.21 percent of the total vehicles were traveling in excess of 55 Mph. The mode speed for this traffic study was 30 Mph and the 85th percentile was 37.18 Mph.

CLASSIFICATION

Chart 2 lists the values of the eight classification bins and the total traffic volume accumulated for each bin.

Chart 2

< 20	20	28	40	50	60	70	> 71
5133	152	38	8	3	5	0	0

Most of the vehicles classified during the study were Passenger Cars. The number of Passenger Cars in the study was 5285 which represents 99.00 percent of the total classifed vehicles. The number of Small Trucks in the study was 38 which represents 0.70 percent of the total classifed vehicles. The number of Trucks/Busses in the study was 8 which represents 0.10 percent of the total classifed vehicles. The number of Tractor Trailers in the study was 8 which represents 0.10 percent of the total classifed vehicles.

HEADWAY

During the peak time period, on 06/02/1999 at 05:00 PM the average headway between the vehicles was 5.56 seconds. The slowest traffic period was on 06/03/1999 at 01:45 AM. During this slowest period, the average headway was 450.0 seconds.

WEATHER

The roadway surface temperature over the period of the study varied between 52 and 117 degrees Fahrenheit. The HI-STAR determined that the roadway surface was Dry 100.00 percent of the time.

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 2521
Street: Dell Range E. of Frontier Mall
State: WY
City: Cheyenne
County: Laramie

Begin: 06/02/1999 03:00 PM
Lane: EB OUT
Oper: RS
Posted: 40
AADT Factor: 1

End: 06/03/1999 03:00 PM
Hours: 24.00
Period: 15
Raw Count: 5558
AADT Count: 5558

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
06/02/1999 [03:00 PM-03:15 PM]	89	031 Mph	115 F	Dry
06/02/1999 [03:15 PM-03:30 PM]	102	031 Mph	113 F	Dry
06/02/1999 [03:30 PM-03:45 PM]	80	029 Mph	111 F	Dry
06/02/1999 [03:45 PM-04:00 PM]	88	032 Mph	101 F	Dry
06/02/1999 [04:00 PM-04:15 PM]	103	032 Mph	95 F	Dry
06/02/1999 [04:15 PM-04:30 PM]	100	031 Mph	91 F	Dry
06/02/1999 [04:30 PM-04:45 PM]	145	031 Mph	87 F	Dry
06/02/1999 [04:45 PM-05:00 PM]	113	032 Mph	85 F	Dry
06/02/1999 [05:00 PM-05:15 PM]	161	031 Mph	83 F	Dry
06/02/1999 [05:15 PM-05:30 PM]	148	031 Mph	83 F	Dry
06/02/1999 [05:30 PM-05:45 PM]	125	031 Mph	83 F	Dry
06/02/1999 [05:45 PM-06:00 PM]	118	032 Mph	82 F	Dry
06/02/1999 [06:00 PM-06:15 PM]	109	032 Mph	80 F	Dry
06/02/1999 [06:15 PM-06:30 PM]	87	032 Mph	80 F	Dry
06/02/1999 [06:30 PM-06:45 PM]	87	032 Mph	80 F	Dry
06/02/1999 [06:45 PM-07:00 PM]	89	033 Mph	80 F	Dry
06/02/1999 [07:00 PM-07:15 PM]	90	033 Mph	78 F	Dry
06/02/1999 [07:15 PM-07:30 PM]	70	032 Mph	78 F	Dry
06/02/1999 [07:30 PM-07:45 PM]	79	034 Mph	76 F	Dry
06/02/1999 [07:45 PM-08:00 PM]	74	032 Mph	76 F	Dry
06/02/1999 [08:00 PM-08:15 PM]	77	032 Mph	76 F	Dry
06/02/1999 [08:15 PM-08:30 PM]	74	032 Mph	74 F	Dry
06/02/1999 [08:30 PM-08:45 PM]	68	032 Mph	74 F	Dry
06/02/1999 [08:45 PM-09:00 PM]	67	031 Mph	74 F	Dry
06/02/1999 [09:00 PM-09:15 PM]	80	032 Mph	72 F	Dry
06/02/1999 [09:15 PM-09:30 PM]	84	032 Mph	70 F	Dry
06/02/1999 [09:30 PM-09:45 PM]	63	034 Mph	66 F	Dry
06/02/1999 [09:45 PM-10:00 PM]	39	035 Mph	64 F	Dry
06/02/1999 [10:00 PM-10:15 PM]	26	033 Mph	62 F	Dry
06/02/1999 [10:15 PM-10:30 PM]	27	034 Mph	62 F	Dry
06/02/1999 [10:30 PM-10:45 PM]	26	035 Mph	60 F	Dry
06/02/1999 [10:45 PM-11:00 PM]	24	032 Mph	60 F	Dry
06/02/1999 [11:00 PM-11:15 PM]	19	036 Mph	60 F	Dry
06/02/1999 [11:15 PM-11:30 PM]	14	034 Mph	58 F	Dry
06/02/1999 [11:30 PM-11:45 PM]	25	034 Mph	58 F	Dry
06/02/1999 [11:45 PM-12:00 AM]	21	034 Mph	58 F	Dry
06/03/1999 [12:00 AM-12:15 AM]	14	033 Mph	58 F	Dry
06/03/1999 [12:15 AM-12:30 AM]	5	045 Mph	58 F	Dry
06/03/1999 [12:30 AM-12:45 AM]	3	035 Mph	58 F	Dry
06/03/1999 [12:45 AM-01:00 AM]	10	032 Mph	58 F	Dry
06/03/1999 [01:00 AM-01:15 AM]	9	033 Mph	56 F	Dry
06/03/1999 [01:15 AM-01:30 AM]	3	028 Mph	56 F	Dry
06/03/1999 [01:30 AM-01:45 AM]	6	038 Mph	56 F	Dry
06/03/1999 [01:45 AM-02:00 AM]	1	030 Mph	56 F	Dry
06/03/1999 [02:00 AM-02:15 AM]	3	038 Mph	56 F	Dry
06/03/1999 [02:15 AM-02:30 AM]	1	025 Mph	56 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 2521	Begin: 06/02/1999 03:00 PM	End: 06/03/1999 03:00 PM
Street: Dell Range E. of Frontier Mall	Lane: EB OUT	Hours: 24.00
State: WY	Oper: RS	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 5558
County: Laramie	AADT Factor: 1	AADT Count: 5558

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
06/03/1999 [02:30 AM-02:45 AM]	2	040 Mph	56 F	Dry
06/03/1999 [02:45 AM-03:00 AM]	2	028 Mph	56 F	Dry
06/03/1999 [03:00 AM-03:15 AM]	1	050 Mph	54 F	Dry
06/03/1999 [03:15 AM-03:30 AM]	1	035 Mph	54 F	Dry
06/03/1999 [03:30 AM-03:45 AM]	1	035 Mph	54 F	Dry
06/03/1999 [03:45 AM-04:00 AM]	1	035 Mph	54 F	Dry
06/03/1999 [04:00 AM-04:15 AM]	2	030 Mph	54 F	Dry
06/03/1999 [04:15 AM-04:30 AM]	4	034 Mph	54 F	Dry
06/03/1999 [04:30 AM-04:45 AM]	3	040 Mph	52 F	Dry
06/03/1999 [04:45 AM-05:00 AM]	1	040 Mph	52 F	Dry
06/03/1999 [05:00 AM-05:15 AM]	5	035 Mph	52 F	Dry
06/03/1999 [05:15 AM-05:30 AM]	5	038 Mph	52 F	Dry
06/03/1999 [05:30 AM-05:45 AM]	7	037 Mph	52 F	Dry
06/03/1999 [05:45 AM-06:00 AM]	17	042 Mph	52 F	Dry
06/03/1999 [06:00 AM-06:15 AM]	14	038 Mph	54 F	Dry
06/03/1999 [06:15 AM-06:30 AM]	15	040 Mph	54 F	Dry
06/03/1999 [06:30 AM-06:45 AM]	24	036 Mph	56 F	Dry
06/03/1999 [06:45 AM-07:00 AM]	40	036 Mph	58 F	Dry
06/03/1999 [07:00 AM-07:15 AM]	37	038 Mph	62 F	Dry
06/03/1999 [07:15 AM-07:30 AM]	42	036 Mph	64 F	Dry
06/03/1999 [07:30 AM-07:45 AM]	47	037 Mph	68 F	Dry
06/03/1999 [07:45 AM-08:00 AM]	58	038 Mph	70 F	Dry
06/03/1999 [08:00 AM-08:15 AM]	61	037 Mph	74 F	Dry
06/03/1999 [08:15 AM-08:30 AM]	43	035 Mph	76 F	Dry
06/03/1999 [08:30 AM-08:45 AM]	45	035 Mph	80 F	Dry
06/03/1999 [08:45 AM-09:00 AM]	53	034 Mph	83 F	Dry
06/03/1999 [09:00 AM-09:15 AM]	55	035 Mph	85 F	Dry
06/03/1999 [09:15 AM-09:30 AM]	46	033 Mph	89 F	Dry
06/03/1999 [09:30 AM-09:45 AM]	68	032 Mph	91 F	Dry
06/03/1999 [09:45 AM-10:00 AM]	64	032 Mph	93 F	Dry
06/03/1999 [10:00 AM-10:15 AM]	59	032 Mph	97 F	Dry
06/03/1999 [10:15 AM-10:30 AM]	77	033 Mph	97 F	Dry
06/03/1999 [10:30 AM-10:45 AM]	71	033 Mph	101 F	Dry
06/03/1999 [10:45 AM-11:00 AM]	80	032 Mph	103 F	Dry
06/03/1999 [11:00 AM-11:15 AM]	70	033 Mph	107 F	Dry
06/03/1999 [11:15 AM-11:30 AM]	86	030 Mph	107 F	Dry
06/03/1999 [11:30 AM-11:45 AM]	97	030 Mph	109 F	Dry
06/03/1999 [11:45 AM-12:00 PM]	97	030 Mph	113 F	Dry
06/03/1999 [12:00 PM-12:15 PM]	122	032 Mph	115 F	Dry
06/03/1999 [12:15 PM-12:30 PM]	118	029 Mph	109 F	Dry
06/03/1999 [12:30 PM-12:45 PM]	111	031 Mph	111 F	Dry
06/03/1999 [12:45 PM-01:00 PM]	107	030 Mph	113 F	Dry
06/03/1999 [01:00 PM-01:15 PM]	126	028 Mph	111 F	Dry
06/03/1999 [01:15 PM-01:30 PM]	115	030 Mph	111 F	Dry
06/03/1999 [01:30 PM-01:45 PM]	121	031 Mph	115 F	Dry
06/03/1999 [01:45 PM-02:00 PM]	106	031 Mph	117 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 2521	Begin: 06/02/1999 03:00 PM	End: 06/03/1999 03:00 PM
Street: Dell Range E. of Frontier Mall	Lane: EB OUT	Hours: 24.00
State: WY	Oper: RS	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 5558
County: Laramie	AADT Factor: 1	AADT Count: 5558

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
06/03/1999 [02:00 PM-02:15 PM]	108	031 Mph	115 F	Dry
06/03/1999 [02:15 PM-02:30 PM]	90	031 Mph	117 F	Dry
06/03/1999 [02:30 PM-02:45 PM]	102	031 Mph	117 F	Dry
06/03/1999 [02:45 PM-03:00 PM]	85	031 Mph	117 F	Dry

NU-METRICS Traffic Analyzer Study
Computer Generated Summary Report
Route: Dell Range E. of Frontier Mall
Location: Dell Range E. of Frontier Mall

A study of vehicle traffic was conducted with HI-STAR unit number 2522. The study was done in the EB IN lane on Dell Range E. of Frontier Mall in Cheyenne, WY in Laramie county. The study began on 06/02/1999 at 03:00 PM and concluded on 06/03/1999 at 03:00 PM, lasting a total of 24 hours. Data was recorded in 15 minute time periods. The total recorded volume of traffic showed 6,436 vehicles passed through the location with a peak volume of 164 on 06/02/1999 at 05:00 PM and a minimum volume of 1 on 06/03/1999 at 02:45 AM.

SPEED

Chart 1 lists the values of the speed bins and the total traffic volume for each bin.

Chart 1

< 10	10	15	20	25	30	35	40	45	50	55	60	65	70	> 71
0	14	12	40	398	1809	2288	1251	338	65	21	3	4	1	2

Half of the vehicles were traveling at 35 Mph or a lower speed. The average speed for all classified vehicles was 35 Mph with 6.95 percent exceeding the posted speed of 40 Mph. The HI-STAR found 0.16 percent of the total vehicles were traveling in excess of 55 Mph. The mode speed for this traffic study was 35 Mph and the 85th percentile was 38.49 Mph.

CLASSIFICATION

Chart 2 lists the values of the eight classification bins and the total traffic volume accumulated for each bin.

Chart 2

< 20	20	28	40	50	60	70	> 71
6009	169	33	19	7	7	0	2

Most of the vehicles classified during the study were Passenger Cars. The number of Passenger Cars in the study was 6178 which represents 98.90 percent of the total classifed vehicles. The number of Small Trucks in the study was 33 which represents 0.50 percent of the total classifed vehicles. The number of Trucks/Busses in the study was 19 which represents 0.30 percent of the total classifed vehicles. The number of Tractor Trailers in the study was 16 which represents 0.30 percent of the total classifed vehicles.

HEADWAY

During the peak time period, on 06/02/1999 at 05:00 PM the average headway between the vehicles was 5.45 seconds. The slowest traffic period was on 06/03/1999 at 02:45 AM. During this slowest period, the average headway was 450.0 seconds.

WEATHER

The roadway surface temperature over the period of the study varied between 52 and 117 degrees Fahrenheit. The HI-STAR determined that the roadway surface was Dry 100.00 percent of the time.

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 2522	Begin: 06/02/1999 03:00 PM	End: 06/03/1999 03:00 PM
Street: Dell Range E. of Frontier Mall	Lane: EB IN	Hours: 24.00
State: WY	Oper: RS	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 6436
County: Laramie	AADT Factor: 1	AADT Count: 6436

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
06/02/1999 [03:00 PM-03:15 PM]	126	034 Mph	113 F	Dry
06/02/1999 [03:15 PM-03:30 PM]	130	034 Mph	113 F	Dry
06/02/1999 [03:30 PM-03:45 PM]	139	031 Mph	111 F	Dry
06/02/1999 [03:45 PM-04:00 PM]	107	034 Mph	101 F	Dry
06/02/1999 [04:00 PM-04:15 PM]	129	034 Mph	95 F	Dry
06/02/1999 [04:15 PM-04:30 PM]	139	034 Mph	91 F	Dry
06/02/1999 [04:30 PM-04:45 PM]	160	034 Mph	87 F	Dry
06/02/1999 [04:45 PM-05:00 PM]	146	034 Mph	85 F	Dry
06/02/1999 [05:00 PM-05:15 PM]	164	033 Mph	83 F	Dry
06/02/1999 [05:15 PM-05:30 PM]	163	034 Mph	83 F	Dry
06/02/1999 [05:30 PM-05:45 PM]	143	034 Mph	83 F	Dry
06/02/1999 [05:45 PM-06:00 PM]	98	036 Mph	82 F	Dry
06/02/1999 [06:00 PM-06:15 PM]	114	035 Mph	80 F	Dry
06/02/1999 [06:15 PM-06:30 PM]	103	033 Mph	80 F	Dry
06/02/1999 [06:30 PM-06:45 PM]	98	036 Mph	80 F	Dry
06/02/1999 [06:45 PM-07:00 PM]	103	035 Mph	80 F	Dry
06/02/1999 [07:00 PM-07:15 PM]	108	035 Mph	78 F	Dry
06/02/1999 [07:15 PM-07:30 PM]	94	035 Mph	78 F	Dry
06/02/1999 [07:30 PM-07:45 PM]	97	034 Mph	76 F	Dry
06/02/1999 [07:45 PM-08:00 PM]	95	036 Mph	76 F	Dry
06/02/1999 [08:00 PM-08:15 PM]	81	033 Mph	76 F	Dry
06/02/1999 [08:15 PM-08:30 PM]	89	034 Mph	74 F	Dry
06/02/1999 [08:30 PM-08:45 PM]	72	035 Mph	74 F	Dry
06/02/1999 [08:45 PM-09:00 PM]	63	035 Mph	74 F	Dry
06/02/1999 [09:00 PM-09:15 PM]	79	035 Mph	72 F	Dry
06/02/1999 [09:15 PM-09:30 PM]	86	035 Mph	70 F	Dry
06/02/1999 [09:30 PM-09:45 PM]	57	034 Mph	66 F	Dry
06/02/1999 [09:45 PM-10:00 PM]	27	034 Mph	64 F	Dry
06/02/1999 [10:00 PM-10:15 PM]	29	038 Mph	62 F	Dry
06/02/1999 [10:15 PM-10:30 PM]	23	036 Mph	60 F	Dry
06/02/1999 [10:30 PM-10:45 PM]	26	037 Mph	60 F	Dry
06/02/1999 [10:45 PM-11:00 PM]	21	036 Mph	60 F	Dry
06/02/1999 [11:00 PM-11:15 PM]	25	039 Mph	58 F	Dry
06/02/1999 [11:15 PM-11:30 PM]	15	035 Mph	58 F	Dry
06/02/1999 [11:30 PM-11:45 PM]	20	034 Mph	58 F	Dry
06/02/1999 [11:45 PM-12:00 AM]	15	036 Mph	58 F	Dry
06/03/1999 [12:00 AM-12:15 AM]	16	034 Mph	58 F	Dry
06/03/1999 [12:15 AM-12:30 AM]	14	037 Mph	58 F	Dry
06/03/1999 [12:30 AM-12:45 AM]	9	039 Mph	58 F	Dry
06/03/1999 [12:45 AM-01:00 AM]	8	039 Mph	58 F	Dry
06/03/1999 [01:00 AM-01:15 AM]	3	037 Mph	58 F	Dry
06/03/1999 [01:15 AM-01:30 AM]	8	037 Mph	56 F	Dry
06/03/1999 [01:30 AM-01:45 AM]	2	040 Mph	56 F	Dry
06/03/1999 [01:45 AM-02:00 AM]	5	035 Mph	56 F	Dry
06/03/1999 [02:00 AM-02:15 AM]	5	039 Mph	56 F	Dry
06/03/1999 [02:15 AM-02:30 AM]	5	040 Mph	56 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 2522	Begin: 06/02/1999 03:00 PM	End: 06/03/1999 03:00 PM
Street: Dell Range E. of Frontier Mall	Lane: EB IN	Hours: 24.00
State: WY	Oper: RS	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 6436
County: Laramie	AADT Factor: 1	AADT Count: 6436

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
06/03/1999 [02:30 AM-02:45 AM]	2	038 Mph	56 F	Dry
06/03/1999 [02:45 AM-03:00 AM]	1	045 Mph	56 F	Dry
06/03/1999 [03:00 AM-03:15 AM]	1	040 Mph	54 F	Dry
06/03/1999 [03:15 AM-03:30 AM]	1	020 Mph	54 F	Dry
06/03/1999 [03:30 AM-03:45 AM]	1	035 Mph	54 F	Dry
06/03/1999 [03:45 AM-04:00 AM]	1	030 Mph	54 F	Dry
06/03/1999 [04:00 AM-04:15 AM]	4	050 Mph	54 F	Dry
06/03/1999 [04:15 AM-04:30 AM]	1	055 Mph	54 F	Dry
06/03/1999 [04:30 AM-04:45 AM]	3	045 Mph	52 F	Dry
06/03/1999 [04:45 AM-05:00 AM]	2	042 Mph	52 F	Dry
06/03/1999 [05:00 AM-05:15 AM]	3	035 Mph	52 F	Dry
06/03/1999 [05:15 AM-05:30 AM]	9	041 Mph	52 F	Dry
06/03/1999 [05:30 AM-05:45 AM]	9	040 Mph	52 F	Dry
06/03/1999 [05:45 AM-06:00 AM]	11	043 Mph	54 F	Dry
06/03/1999 [06:00 AM-06:15 AM]	10	038 Mph	54 F	Dry
06/03/1999 [06:15 AM-06:30 AM]	19	038 Mph	56 F	Dry
06/03/1999 [06:30 AM-06:45 AM]	21	039 Mph	56 F	Dry
06/03/1999 [06:45 AM-07:00 AM]	33	040 Mph	58 F	Dry
06/03/1999 [07:00 AM-07:15 AM]	26	041 Mph	62 F	Dry
06/03/1999 [07:15 AM-07:30 AM]	36	040 Mph	64 F	Dry
06/03/1999 [07:30 AM-07:45 AM]	41	039 Mph	68 F	Dry
06/03/1999 [07:45 AM-08:00 AM]	66	039 Mph	70 F	Dry
06/03/1999 [08:00 AM-08:15 AM]	44	040 Mph	74 F	Dry
06/03/1999 [08:15 AM-08:30 AM]	56	037 Mph	76 F	Dry
06/03/1999 [08:30 AM-08:45 AM]	45	036 Mph	80 F	Dry
06/03/1999 [08:45 AM-09:00 AM]	57	036 Mph	83 F	Dry
06/03/1999 [09:00 AM-09:15 AM]	70	035 Mph	85 F	Dry
06/03/1999 [09:15 AM-09:30 AM]	55	035 Mph	89 F	Dry
06/03/1999 [09:30 AM-09:45 AM]	78	034 Mph	91 F	Dry
06/03/1999 [09:45 AM-10:00 AM]	69	035 Mph	93 F	Dry
06/03/1999 [10:00 AM-10:15 AM]	79	036 Mph	97 F	Dry
06/03/1999 [10:15 AM-10:30 AM]	75	036 Mph	97 F	Dry
06/03/1999 [10:30 AM-10:45 AM]	89	034 Mph	99 F	Dry
06/03/1999 [10:45 AM-11:00 AM]	112	034 Mph	101 F	Dry
06/03/1999 [11:00 AM-11:15 AM]	97	034 Mph	105 F	Dry
06/03/1999 [11:15 AM-11:30 AM]	116	034 Mph	107 F	Dry
06/03/1999 [11:30 AM-11:45 AM]	135	034 Mph	107 F	Dry
06/03/1999 [11:45 AM-12:00 PM]	138	033 Mph	111 F	Dry
06/03/1999 [12:00 PM-12:15 PM]	142	033 Mph	113 F	Dry
06/03/1999 [12:15 PM-12:30 PM]	144	033 Mph	109 F	Dry
06/03/1999 [12:30 PM-12:45 PM]	130	035 Mph	109 F	Dry
06/03/1999 [12:45 PM-01:00 PM]	149	033 Mph	111 F	Dry
06/03/1999 [01:00 PM-01:15 PM]	131	034 Mph	109 F	Dry
06/03/1999 [01:15 PM-01:30 PM]	125	033 Mph	109 F	Dry
06/03/1999 [01:30 PM-01:45 PM]	126	033 Mph	115 F	Dry
06/03/1999 [01:45 PM-02:00 PM]	127	033 Mph	115 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 2522	Begin: 06/02/1999 03:00 PM	End: 06/03/1999 03:00 PM
Street: Dell Range E. of Frontier Mall	Lane: EB IN	Hours: 24.00
State: WY	Oper: RS	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 6436
County: Laramie	AADT Factor: 1	AADT Count: 6436

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
06/03/1999 [02:00 PM-02:15 PM]	126	033 Mph	113 F	Dry
06/03/1999 [02:15 PM-02:30 PM]	122	035 Mph	117 F	Dry
06/03/1999 [02:30 PM-02:45 PM]	114	035 Mph	117 F	Dry
06/03/1999 [02:45 PM-03:00 PM]	125	034 Mph	117 F	Dry

NU-METRICS Traffic Analyzer Study
Computer Generated Summary Report
Route: Dell Range E. of Powderhouse
Location: Dell Range E. of Powderhouse

A study of vehicle traffic was conducted with HI-STAR unit number 1841. The study was done in the WB OUT lane on Dell Range E. of Powderhouse in Cheyenne, WY in Laramie county. The study began on 06/02/1999 at 03:00 PM and concluded on 06/03/1999 at 03:00 PM, lasting a total of 24 hours. Data was recorded in 15 minute time periods. The total recorded volume of traffic showed 891 vehicles passed through the location with a peak volume of 25 on 06/02/1999 at 06:00 PM and a minimum volume of 0 on 06/02/1999 at 09:45 PM.

SPEED

Chart 1 lists the values of the speed bins and the total traffic volume for each bin.

Chart 1

< 10	10	15	20	25	30	35	40	45	50	55	60	65	70	> 71
0	3	10	29	76	191	224	135	50	25	13	9	3	3	7

Half of the vehicles were traveling at 35 Mph or a lower speed. The average speed for all classified vehicles was 35 Mph with 14.1 percent exceeding the posted speed of 40 Mph. The HI-STAR found 2.83 percent of the total vehicles were traveling in excess of 55 Mph. The mode speed for this traffic study was 35 Mph and the 85th percentile was 40.25 Mph.

CLASSIFICATION

Chart 2 lists the values of the eight classification bins and the total traffic volume accumulated for each bin.

Chart 2

< 20	20	28	40	50	60	70	> 71
709	49	15	3	2	0	0	0

Most of the vehicles classified during the study were Passenger Cars. The number of Passenger Cars in the study was 758 which represents 97.40 percent of the total classifed vehicles. The number of Small Trucks in the study was 15 which represents 1.90 percent of the total classifed vehicles. The number of Trucks/Busses in the study was 3 which represents 0.40 percent of the total classifed vehicles. The number of Tractor Trailers in the study was 2 which represents 0.30 percent of the total classifed vehicles.

HEADWAY

During the peak time period, on 06/02/1999 at 06:00 PM the average headway between the vehicles was 34.62 seconds. The slowest traffic period was on 06/02/1999 at 09:45 PM. During this slowest period, the average headway was 900.0 seconds.

WEATHER

The roadway surface temperature over the period of the study varied between 52 and 121 degrees Fahrenheit. The HI-STAR determined that the roadway surface was Dry 100.00 percent of the time.

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 1841	Begin: 06/02/1999 03:00 PM	End: 06/03/1999 03:00 PM
Street: Dell Range E. of Powderhouse	Lane: WB OUT	Hours: 24.00
State: WY	Oper: RS	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 891
County: Laramie	AADT Factor: 1	AADT Count: 891

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
06/02/1999 [03:00 PM-03:15 PM]	20	035 Mph	117 F	Dry
06/02/1999 [03:15 PM-03:30 PM]	13	039 Mph	117 F	Dry
06/02/1999 [03:30 PM-03:45 PM]	13	037 Mph	115 F	Dry
06/02/1999 [03:45 PM-04:00 PM]	17	036 Mph	103 F	Dry
06/02/1999 [04:00 PM-04:15 PM]	15	036 Mph	97 F	Dry
06/02/1999 [04:15 PM-04:30 PM]	19	035 Mph	91 F	Dry
06/02/1999 [04:30 PM-04:45 PM]	24	034 Mph	89 F	Dry
06/02/1999 [04:45 PM-05:00 PM]	12	042 Mph	87 F	Dry
06/02/1999 [05:00 PM-05:15 PM]	21	036 Mph	83 F	Dry
06/02/1999 [05:15 PM-05:30 PM]	12	042 Mph	85 F	Dry
06/02/1999 [05:30 PM-05:45 PM]	23	036 Mph	83 F	Dry
06/02/1999 [05:45 PM-06:00 PM]	21	029 Mph	82 F	Dry
06/02/1999 [06:00 PM-06:15 PM]	25	034 Mph	80 F	Dry
06/02/1999 [06:15 PM-06:30 PM]	18	032 Mph	80 F	Dry
06/02/1999 [06:30 PM-06:45 PM]	25	034 Mph	82 F	Dry
06/02/1999 [06:45 PM-07:00 PM]	15	032 Mph	80 F	Dry
06/02/1999 [07:00 PM-07:15 PM]	19	031 Mph	78 F	Dry
06/02/1999 [07:15 PM-07:30 PM]	11	033 Mph	78 F	Dry
06/02/1999 [07:30 PM-07:45 PM]	11	035 Mph	76 F	Dry
06/02/1999 [07:45 PM-08:00 PM]	18	037 Mph	76 F	Dry
06/02/1999 [08:00 PM-08:15 PM]	15	036 Mph	74 F	Dry
06/02/1999 [08:15 PM-08:30 PM]	16	035 Mph	74 F	Dry
06/02/1999 [08:30 PM-08:45 PM]	7	031 Mph	72 F	Dry
06/02/1999 [08:45 PM-09:00 PM]	9	031 Mph	72 F	Dry
06/02/1999 [09:00 PM-09:15 PM]	11	029 Mph	70 F	Dry
06/02/1999 [09:15 PM-09:30 PM]	13	033 Mph	68 F	Dry
06/02/1999 [09:30 PM-09:45 PM]	7	032 Mph	64 F	Dry
06/02/1999 [09:45 PM-10:00 PM]	0	000 Mph	62 F	Dry
06/02/1999 [10:00 PM-10:15 PM]	3	035 Mph	60 F	Dry
06/02/1999 [10:15 PM-10:30 PM]	1	035 Mph	60 F	Dry
06/02/1999 [10:30 PM-10:45 PM]	2	038 Mph	60 F	Dry
06/02/1999 [10:45 PM-11:00 PM]	4	041 Mph	58 F	Dry
06/02/1999 [11:00 PM-11:15 PM]	1	055 Mph	58 F	Dry
06/02/1999 [11:15 PM-11:30 PM]	0	000 Mph	58 F	Dry
06/02/1999 [11:30 PM-11:45 PM]	6	034 Mph	58 F	Dry
06/02/1999 [11:45 PM-12:00 AM]	1	035 Mph	56 F	Dry
06/03/1999 [12:00 AM-12:15 AM]	0	000 Mph	56 F	Dry
06/03/1999 [12:15 AM-12:30 AM]	0	000 Mph	56 F	Dry
06/03/1999 [12:30 AM-12:45 AM]	1	035 Mph	56 F	Dry
06/03/1999 [12:45 AM-01:00 AM]	0	000 Mph	56 F	Dry
06/03/1999 [01:00 AM-01:15 AM]	0	000 Mph	56 F	Dry
06/03/1999 [01:15 AM-01:30 AM]	0	000 Mph	56 F	Dry
06/03/1999 [01:30 AM-01:45 AM]	0	000 Mph	56 F	Dry
06/03/1999 [01:45 AM-02:00 AM]	1	040 Mph	56 F	Dry
06/03/1999 [02:00 AM-02:15 AM]	0	000 Mph	56 F	Dry
06/03/1999 [02:15 AM-02:30 AM]	1	030 Mph	56 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 1841	Begin: 06/02/1999 03:00 PM	End: 06/03/1999 03:00 PM
Street: Dell Range E. of Powderhouse	Lane: WB OUT	Hours: 24.00
State: WY	Oper: RS	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 891
County: Laramie	AADT Factor: 1	AADT Count: 891

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
06/03/1999 [02:30 AM-02:45 AM]	1	040 Mph	56 F	Dry
06/03/1999 [02:45 AM-03:00 AM]	0	000 Mph	54 F	Dry
06/03/1999 [03:00 AM-03:15 AM]	0	000 Mph	52 F	Dry
06/03/1999 [03:15 AM-03:30 AM]	2	040 Mph	54 F	Dry
06/03/1999 [03:30 AM-03:45 AM]	0	000 Mph	54 F	Dry
06/03/1999 [03:45 AM-04:00 AM]	0	000 Mph	54 F	Dry
06/03/1999 [04:00 AM-04:15 AM]	0	000 Mph	54 F	Dry
06/03/1999 [04:15 AM-04:30 AM]	1	040 Mph	52 F	Dry
06/03/1999 [04:30 AM-04:45 AM]	0	000 Mph	52 F	Dry
06/03/1999 [04:45 AM-05:00 AM]	1	035 Mph	52 F	Dry
06/03/1999 [05:00 AM-05:15 AM]	3	035 Mph	52 F	Dry
06/03/1999 [05:15 AM-05:30 AM]	1	035 Mph	52 F	Dry
06/03/1999 [05:30 AM-05:45 AM]	3	037 Mph	52 F	Dry
06/03/1999 [05:45 AM-06:00 AM]	4	040 Mph	52 F	Dry
06/03/1999 [06:00 AM-06:15 AM]	2	045 Mph	54 F	Dry
06/03/1999 [06:15 AM-06:30 AM]	7	035 Mph	54 F	Dry
06/03/1999 [06:30 AM-06:45 AM]	3	035 Mph	54 F	Dry
06/03/1999 [06:45 AM-07:00 AM]	2	042 Mph	58 F	Dry
06/03/1999 [07:00 AM-07:15 AM]	3	033 Mph	62 F	Dry
06/03/1999 [07:15 AM-07:30 AM]	14	037 Mph	64 F	Dry
06/03/1999 [07:30 AM-07:45 AM]	12	039 Mph	68 F	Dry
06/03/1999 [07:45 AM-08:00 AM]	17	041 Mph	70 F	Dry
06/03/1999 [08:00 AM-08:15 AM]	10	039 Mph	74 F	Dry
06/03/1999 [08:15 AM-08:30 AM]	13	032 Mph	76 F	Dry
06/03/1999 [08:30 AM-08:45 AM]	11	035 Mph	80 F	Dry
06/03/1999 [08:45 AM-09:00 AM]	9	034 Mph	83 F	Dry
06/03/1999 [09:00 AM-09:15 AM]	8	034 Mph	87 F	Dry
06/03/1999 [09:15 AM-09:30 AM]	5	038 Mph	89 F	Dry
06/03/1999 [09:30 AM-09:45 AM]	12	033 Mph	93 F	Dry
06/03/1999 [09:45 AM-10:00 AM]	7	035 Mph	95 F	Dry
06/03/1999 [10:00 AM-10:15 AM]	12	032 Mph	97 F	Dry
06/03/1999 [10:15 AM-10:30 AM]	15	033 Mph	101 F	Dry
06/03/1999 [10:30 AM-10:45 AM]	11	034 Mph	103 F	Dry
06/03/1999 [10:45 AM-11:00 AM]	12	036 Mph	105 F	Dry
06/03/1999 [11:00 AM-11:15 AM]	9	040 Mph	107 F	Dry
06/03/1999 [11:15 AM-11:30 AM]	15	030 Mph	111 F	Dry
06/03/1999 [11:30 AM-11:45 AM]	12	036 Mph	113 F	Dry
06/03/1999 [11:45 AM-12:00 PM]	20	034 Mph	115 F	Dry
06/03/1999 [12:00 PM-12:15 PM]	15	038 Mph	117 F	Dry
06/03/1999 [12:15 PM-12:30 PM]	13	035 Mph	115 F	Dry
06/03/1999 [12:30 PM-12:45 PM]	12	036 Mph	115 F	Dry
06/03/1999 [12:45 PM-01:00 PM]	17	033 Mph	119 F	Dry
06/03/1999 [01:00 PM-01:15 PM]	21	039 Mph	117 F	Dry
06/03/1999 [01:15 PM-01:30 PM]	17	036 Mph	115 F	Dry
06/03/1999 [01:30 PM-01:45 PM]	19	033 Mph	119 F	Dry
06/03/1999 [01:45 PM-02:00 PM]	19	034 Mph	121 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 1841	Begin: 06/02/1999 03:00 PM	End: 06/03/1999 03:00 PM
Street: Dell Range E. of Powderhouse	Lane: WB OUT	Hours: 24.00
State: WY	Oper: RS	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 891
County: Laramie	AADT Factor: 1	AADT Count: 891

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
06/03/1999 [02:00 PM-02:15 PM]	15	036 Mph	119 F	Dry
06/03/1999 [02:15 PM-02:30 PM]	10	042 Mph	121 F	Dry
06/03/1999 [02:30 PM-02:45 PM]	12	030 Mph	121 F	Dry
06/03/1999 [02:45 PM-03:00 PM]	13	032 Mph	121 F	Dry

NU-METRICS Traffic Analyzer Study
Computer Generated Summary Report
Route: Dell Range E. of Powderhouse
Location: Dell Range E. of Powderhouse

A study of vehicle traffic was conducted with HI-STAR unit number 2519. The study was done in the WB MID lane on Dell Range E. of Powderhouse in Cheyenne, WY in Laramie county. The study began on 06/02/1999 at 03:00 PM and concluded on 06/03/1999 at 03:00 PM, lasting a total of 24 hours. Data was recorded in 15 minute time periods. The total recorded volume of traffic showed 6,455 vehicles passed through the location with a peak volume of 153 on 06/03/1999 at 12:45 PM and a minimum volume of 1 on 06/03/1999 at 01:15 AM.

SPEED

Chart 1 lists the values of the speed bins and the total traffic volume for each bin.

Chart 1

< 10	10	15	20	25	30	35	40	45	50	55	60	65	70	> 71
0	27	31	79	377	1094	2083	1814	499	122	29	11	9	0	5

Half of the vehicles were traveling at 35 Mph or a lower speed. The average speed for all classified vehicles was 36 Mph with 10.9 percent exceeding the posted speed of 40 Mph. The HI-STAR found 0.40 percent of the total vehicles were traveling in excess of 55 Mph. The mode speed for this traffic study was 35 Mph and the 85th percentile was 39.81 Mph.

CLASSIFICATION

Chart 2 lists the values of the eight classification bins and the total traffic volume accumulated for each bin.

Chart 2

< 20	20	28	40	50	60	70	> 71
5889	219	45	16	6	4	0	1

Most of the vehicles classified during the study were Passenger Cars. The number of Passenger Cars in the study was 6108 which represents 98.80 percent of the total classifed vehicles. The number of Small Trucks in the study was 45 which represents 0.70 percent of the total classifed vehicles. The number of Trucks/Busses in the study was 16 which represents 0.30 percent of the total classifed vehicles. The number of Tractor Trailers in the study was 11 which represents 0.20 percent of the total classifed vehicles.

HEADWAY

During the peak time period, on 06/03/1999 at 12:45 PM the average headway between the vehicles was 5.84 seconds. The slowest traffic period was on 06/03/1999 at 01:15 AM. During this slowest period, the average headway was 450.0 seconds.

WEATHER

The roadway surface temperature over the period of the study varied between 52 and 119 degrees Fahrenheit. The HI-STAR determined that the roadway surface was Dry 100.00 percent of the time.

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 2519	Begin: 06/02/1999 03:00 PM	End: 06/03/1999 03:00 PM
Street: Dell Range E. of Powderhouse	Lane: WB MID	Hours: 24.00
State: WY	Oper: RS	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 6455
County: Laramie	AADT Factor: 1	AADT Count: 6455

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
06/02/1999 [03:00 PM-03:15 PM]	104	037 Mph	115 F	Dry
06/02/1999 [03:15 PM-03:30 PM]	99	035 Mph	115 F	Dry
06/02/1999 [03:30 PM-03:45 PM]	98	037 Mph	113 F	Dry
06/02/1999 [03:45 PM-04:00 PM]	110	037 Mph	101 F	Dry
06/02/1999 [04:00 PM-04:15 PM]	115	035 Mph	95 F	Dry
06/02/1999 [04:15 PM-04:30 PM]	130	036 Mph	89 F	Dry
06/02/1999 [04:30 PM-04:45 PM]	119	034 Mph	85 F	Dry
06/02/1999 [04:45 PM-05:00 PM]	97	036 Mph	85 F	Dry
06/02/1999 [05:00 PM-05:15 PM]	138	036 Mph	82 F	Dry
06/02/1999 [05:15 PM-05:30 PM]	146	035 Mph	83 F	Dry
06/02/1999 [05:30 PM-05:45 PM]	114	035 Mph	82 F	Dry
06/02/1999 [05:45 PM-06:00 PM]	116	034 Mph	80 F	Dry
06/02/1999 [06:00 PM-06:15 PM]	110	035 Mph	80 F	Dry
06/02/1999 [06:15 PM-06:30 PM]	117	036 Mph	80 F	Dry
06/02/1999 [06:30 PM-06:45 PM]	97	035 Mph	80 F	Dry
06/02/1999 [06:45 PM-07:00 PM]	104	036 Mph	78 F	Dry
06/02/1999 [07:00 PM-07:15 PM]	96	037 Mph	78 F	Dry
06/02/1999 [07:15 PM-07:30 PM]	93	035 Mph	76 F	Dry
06/02/1999 [07:30 PM-07:45 PM]	98	035 Mph	76 F	Dry
06/02/1999 [07:45 PM-08:00 PM]	97	035 Mph	76 F	Dry
06/02/1999 [08:00 PM-08:15 PM]	87	037 Mph	74 F	Dry
06/02/1999 [08:15 PM-08:30 PM]	88	035 Mph	72 F	Dry
06/02/1999 [08:30 PM-08:45 PM]	84	036 Mph	72 F	Dry
06/02/1999 [08:45 PM-09:00 PM]	74	035 Mph	72 F	Dry
06/02/1999 [09:00 PM-09:15 PM]	87	033 Mph	70 F	Dry
06/02/1999 [09:15 PM-09:30 PM]	74	035 Mph	68 F	Dry
06/02/1999 [09:30 PM-09:45 PM]	57	034 Mph	64 F	Dry
06/02/1999 [09:45 PM-10:00 PM]	56	034 Mph	62 F	Dry
06/02/1999 [10:00 PM-10:15 PM]	50	033 Mph	60 F	Dry
06/02/1999 [10:15 PM-10:30 PM]	41	032 Mph	58 F	Dry
06/02/1999 [10:30 PM-10:45 PM]	25	035 Mph	58 F	Dry
06/02/1999 [10:45 PM-11:00 PM]	24	036 Mph	58 F	Dry
06/02/1999 [11:00 PM-11:15 PM]	28	037 Mph	56 F	Dry
06/02/1999 [11:15 PM-11:30 PM]	27	037 Mph	56 F	Dry
06/02/1999 [11:30 PM-11:45 PM]	21	036 Mph	56 F	Dry
06/02/1999 [11:45 PM-12:00 AM]	10	035 Mph	56 F	Dry
06/03/1999 [12:00 AM-12:15 AM]	23	034 Mph	54 F	Dry
06/03/1999 [12:15 AM-12:30 AM]	14	036 Mph	56 F	Dry
06/03/1999 [12:30 AM-12:45 AM]	9	035 Mph	56 F	Dry
06/03/1999 [12:45 AM-01:00 AM]	5	040 Mph	56 F	Dry
06/03/1999 [01:00 AM-01:15 AM]	2	040 Mph	56 F	Dry
06/03/1999 [01:15 AM-01:30 AM]	1	035 Mph	56 F	Dry
06/03/1999 [01:30 AM-01:45 AM]	2	038 Mph	56 F	Dry
06/03/1999 [01:45 AM-02:00 AM]	5	038 Mph	54 F	Dry
06/03/1999 [02:00 AM-02:15 AM]	2	040 Mph	56 F	Dry
06/03/1999 [02:15 AM-02:30 AM]	2	032 Mph	56 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 2519	Begin: 06/02/1999 03:00 PM	End: 06/03/1999 03:00 PM
Street: Dell Range E. of Powderhouse	Lane: WB MID	Hours: 24.00
State: WY	Oper: RS	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 6455
County: Laramie	AADT Factor: 1	AADT Count: 6455

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
06/03/1999 [02:30 AM-02:45 AM]	3	033 Mph	54 F	Dry
06/03/1999 [02:45 AM-03:00 AM]	3	043 Mph	54 F	Dry
06/03/1999 [03:00 AM-03:15 AM]	2	038 Mph	52 F	Dry
06/03/1999 [03:15 AM-03:30 AM]	3	042 Mph	52 F	Dry
06/03/1999 [03:30 AM-03:45 AM]	1	045 Mph	52 F	Dry
06/03/1999 [03:45 AM-04:00 AM]	3	038 Mph	54 F	Dry
06/03/1999 [04:00 AM-04:15 AM]	3	037 Mph	52 F	Dry
06/03/1999 [04:15 AM-04:30 AM]	3	042 Mph	52 F	Dry
06/03/1999 [04:30 AM-04:45 AM]	3	037 Mph	52 F	Dry
06/03/1999 [04:45 AM-05:00 AM]	8	037 Mph	52 F	Dry
06/03/1999 [05:00 AM-05:15 AM]	10	035 Mph	52 F	Dry
06/03/1999 [05:15 AM-05:30 AM]	14	040 Mph	52 F	Dry
06/03/1999 [05:30 AM-05:45 AM]	12	040 Mph	52 F	Dry
06/03/1999 [05:45 AM-06:00 AM]	26	040 Mph	52 F	Dry
06/03/1999 [06:00 AM-06:15 AM]	31	040 Mph	52 F	Dry
06/03/1999 [06:15 AM-06:30 AM]	31	039 Mph	54 F	Dry
06/03/1999 [06:30 AM-06:45 AM]	69	038 Mph	54 F	Dry
06/03/1999 [06:45 AM-07:00 AM]	79	039 Mph	56 F	Dry
06/03/1999 [07:00 AM-07:15 AM]	61	040 Mph	60 F	Dry
06/03/1999 [07:15 AM-07:30 AM]	78	039 Mph	64 F	Dry
06/03/1999 [07:30 AM-07:45 AM]	87	039 Mph	66 F	Dry
06/03/1999 [07:45 AM-08:00 AM]	70	040 Mph	70 F	Dry
06/03/1999 [08:00 AM-08:15 AM]	55	039 Mph	72 F	Dry
06/03/1999 [08:15 AM-08:30 AM]	53	038 Mph	76 F	Dry
06/03/1999 [08:30 AM-08:45 AM]	55	038 Mph	78 F	Dry
06/03/1999 [08:45 AM-09:00 AM]	65	038 Mph	82 F	Dry
06/03/1999 [09:00 AM-09:15 AM]	68	036 Mph	85 F	Dry
06/03/1999 [09:15 AM-09:30 AM]	62	037 Mph	89 F	Dry
06/03/1999 [09:30 AM-09:45 AM]	82	037 Mph	91 F	Dry
06/03/1999 [09:45 AM-10:00 AM]	68	038 Mph	95 F	Dry
06/03/1999 [10:00 AM-10:15 AM]	78	036 Mph	97 F	Dry
06/03/1999 [10:15 AM-10:30 AM]	75	036 Mph	97 F	Dry
06/03/1999 [10:30 AM-10:45 AM]	81	036 Mph	101 F	Dry
06/03/1999 [10:45 AM-11:00 AM]	85	036 Mph	103 F	Dry
06/03/1999 [11:00 AM-11:15 AM]	82	036 Mph	107 F	Dry
06/03/1999 [11:15 AM-11:30 AM]	82	035 Mph	109 F	Dry
06/03/1999 [11:30 AM-11:45 AM]	95	037 Mph	109 F	Dry
06/03/1999 [11:45 AM-12:00 PM]	115	034 Mph	113 F	Dry
06/03/1999 [12:00 PM-12:15 PM]	148	035 Mph	113 F	Dry
06/03/1999 [12:15 PM-12:30 PM]	140	036 Mph	109 F	Dry
06/03/1999 [12:30 PM-12:45 PM]	132	036 Mph	111 F	Dry
06/03/1999 [12:45 PM-01:00 PM]	153	034 Mph	113 F	Dry
06/03/1999 [01:00 PM-01:15 PM]	137	034 Mph	113 F	Dry
06/03/1999 [01:15 PM-01:30 PM]	128	035 Mph	111 F	Dry
06/03/1999 [01:30 PM-01:45 PM]	129	034 Mph	115 F	Dry
06/03/1999 [01:45 PM-02:00 PM]	133	035 Mph	117 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 2519	Begin: 06/02/1999 03:00 PM	End: 06/03/1999 03:00 PM
Street: Dell Range E. of Powderhouse	Lane: WB MID	Hours: 24.00
State: WY	Oper: RS	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 6455
County: Laramie	AADT Factor: 1	AADT Count: 6455

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
06/03/1999 [02:00 PM-02:15 PM]	117	035 Mph	115 F	Dry
06/03/1999 [02:15 PM-02:30 PM]	118	036 Mph	117 F	Dry
06/03/1999 [02:30 PM-02:45 PM]	111	035 Mph	119 F	Dry
06/03/1999 [02:45 PM-03:00 PM]	112	036 Mph	119 F	Dry

NU-METRICS Traffic Analyzer Study
Computer Generated Summary Report
Route: Dell Range E. of Powderhouse
Location: Dell Range E. of Powderhouse

A study of vehicle traffic was conducted with HI-STAR unit number 2520. The study was done in the WB IN lane on Dell Range E. of Powderhouse in Cheyenne, WY in Laramie county. The study began on 06/02/1999 at 03:00 PM and concluded on 06/03/1999 at 03:00 PM, lasting a total of 24 hours. Data was recorded in 15 minute time periods. The total recorded volume of traffic showed 4,633 vehicles passed through the location with a peak volume of 134 on 06/03/1999 at 12:45 PM and a minimum volume of 0 on 06/03/1999 at 02:45 AM.

SPEED

Chart 1 lists the values of the speed bins and the total traffic volume for each bin.

Chart 1

< 10	10	15	20	25	30	35	40	45	50	55	60	65	70	> 71
0	20	14	52	179	602	1328	1416	645	126	28	5	4	2	6

Half of the vehicles were traveling at 40 Mph or a lower speed. The average speed for all classified vehicles was 37 Mph with 18.4 percent exceeding the posted speed of 40 Mph. The HI-STAR found 0.38 percent of the total vehicles were traveling in excess of 55 Mph. The mode speed for this traffic study was 40 Mph and the 85th percentile was 41.68 Mph.

CLASSIFICATION

Chart 2 lists the values of the eight classification bins and the total traffic volume accumulated for each bin.

Chart 2

< 20	20	28	40	50	60	70	> 71
4254	117	38	11	4	2	0	1

Most of the vehicles classified during the study were Passenger Cars. The number of Passenger Cars in the study was 4371 which represents 98.70 percent of the total classifed vehicles. The number of Small Trucks in the study was 38 which represents 0.90 percent of the total classifed vehicles. The number of Trucks/Busses in the study was 11 which represents 0.20 percent of the total classifed vehicles. The number of Tractor Trailers in the study was 7 which represents 0.20 percent of the total classifed vehicles.

HEADWAY

During the peak time period, on 06/03/1999 at 12:45 PM the average headway between the vehicles was 6.67 seconds. The slowest traffic period was on 06/03/1999 at 02:45 AM. During this slowest period, the average headway was 900.0 seconds.

WEATHER

The roadway surface temperature over the period of the study varied between 52 and 121 degrees Fahrenheit. The HI-STAR determined that the roadway surface was Dry 0.00 percent of the time.

Date/Time/Volume/Average Headway Report

HI-Star ID: 2520	Begin: 06/02/1999 03:00 PM	End: 06/03/1999 03:00 PM
Street: Dell Range E. of Powderhouse	Lane: WB IN	Hours: 24.00
State: WY	Oper: RS	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 4633
County: Laramie	AADT Factor: 1	AADT Count: 0

Date & Time Range	Volume	Avg Headway (Seconds)
06/02/1999 [03:00 PM-03:15 PM]	78	11.390
06/02/1999 [03:15 PM-03:30 PM]	73	12.160
06/02/1999 [03:30 PM-03:45 PM]	65	13.640
06/02/1999 [03:45 PM-04:00 PM]	84	10.590
06/02/1999 [04:00 PM-04:15 PM]	86	10.340
06/02/1999 [04:15 PM-04:30 PM]	74	12.000
06/02/1999 [04:30 PM-04:45 PM]	74	12.000
06/02/1999 [04:45 PM-05:00 PM]	81	10.980
06/02/1999 [05:00 PM-05:15 PM]	97	9.180
06/02/1999 [05:15 PM-05:30 PM]	88	10.110
06/02/1999 [05:30 PM-05:45 PM]	78	11.390
06/02/1999 [05:45 PM-06:00 PM]	84	10.590
06/02/1999 [06:00 PM-06:15 PM]	82	10.840
06/02/1999 [06:15 PM-06:30 PM]	79	11.250
06/02/1999 [06:30 PM-06:45 PM]	70	12.680
06/02/1999 [06:45 PM-07:00 PM]	63	14.060
06/02/1999 [07:00 PM-07:15 PM]	68	13.040
06/02/1999 [07:15 PM-07:30 PM]	69	12.860
06/02/1999 [07:30 PM-07:45 PM]	65	13.640
06/02/1999 [07:45 PM-08:00 PM]	65	13.640
06/02/1999 [08:00 PM-08:15 PM]	64	13.850
06/02/1999 [08:15 PM-08:30 PM]	66	13.430
06/02/1999 [08:30 PM-08:45 PM]	51	17.310
06/02/1999 [08:45 PM-09:00 PM]	46	19.150
06/02/1999 [09:00 PM-09:15 PM]	49	18.000
06/02/1999 [09:15 PM-09:30 PM]	46	19.150
06/02/1999 [09:30 PM-09:45 PM]	43	20.450
06/02/1999 [09:45 PM-10:00 PM]	25	34.620
06/02/1999 [10:00 PM-10:15 PM]	26	33.330
06/02/1999 [10:15 PM-10:30 PM]	19	45.000
06/02/1999 [10:30 PM-10:45 PM]	15	56.250
06/02/1999 [10:45 PM-11:00 PM]	17	50.000
06/02/1999 [11:00 PM-11:15 PM]	15	56.250
06/02/1999 [11:15 PM-11:30 PM]	15	56.250
06/02/1999 [11:30 PM-11:45 PM]	6	128.570
06/02/1999 [11:45 PM-12:00 AM]	6	128.570
06/03/1999 [12:00 AM-12:15 AM]	15	56.250
06/03/1999 [12:15 AM-12:30 AM]	9	90.000
06/03/1999 [12:30 AM-12:45 AM]	10	81.820
06/03/1999 [12:45 AM-01:00 AM]	3	225.000
06/03/1999 [01:00 AM-01:15 AM]	4	180.000
06/03/1999 [01:15 AM-01:30 AM]	4	180.000
06/03/1999 [01:30 AM-01:45 AM]	2	300.000
06/03/1999 [01:45 AM-02:00 AM]	2	300.000
06/03/1999 [02:00 AM-02:15 AM]	1	450.000
06/03/1999 [02:15 AM-02:30 AM]	3	225.000

Date/Time/Volume/Average Headway Report

HI-Star ID: 2520	Begin: 06/02/1999 03:00 PM	End: 06/03/1999 03:00 PM
Street: Dell Range E. of Powderhouse	Lane: WB IN	Hours: 24.00
State: WY	Oper: RS	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 4633
County: Laramie	AADT Factor: 1	AADT Count: 0

Date & Time Range	Volume	Avg Headway (Seconds)
06/03/1999 [02:30 AM-02:45 AM]	2	300.000
06/03/1999 [02:45 AM-03:00 AM]	0	900.000
06/03/1999 [03:00 AM-03:15 AM]	0	900.000
06/03/1999 [03:15 AM-03:30 AM]	2	300.000
06/03/1999 [03:30 AM-03:45 AM]	2	300.000
06/03/1999 [03:45 AM-04:00 AM]	1	450.000
06/03/1999 [04:00 AM-04:15 AM]	0	900.000
06/03/1999 [04:15 AM-04:30 AM]	1	450.000
06/03/1999 [04:30 AM-04:45 AM]	5	150.000
06/03/1999 [04:45 AM-05:00 AM]	8	100.000
06/03/1999 [05:00 AM-05:15 AM]	6	128.570
06/03/1999 [05:15 AM-05:30 AM]	5	150.000
06/03/1999 [05:30 AM-05:45 AM]	8	100.000
06/03/1999 [05:45 AM-06:00 AM]	16	52.940
06/03/1999 [06:00 AM-06:15 AM]	19	45.000
06/03/1999 [06:15 AM-06:30 AM]	23	37.500
06/03/1999 [06:30 AM-06:45 AM]	54	16.360
06/03/1999 [06:45 AM-07:00 AM]	76	11.690
06/03/1999 [07:00 AM-07:15 AM]	55	16.070
06/03/1999 [07:15 AM-07:30 AM]	65	13.640
06/03/1999 [07:30 AM-07:45 AM]	51	17.310
06/03/1999 [07:45 AM-08:00 AM]	41	21.430
06/03/1999 [08:00 AM-08:15 AM]	49	18.000
06/03/1999 [08:15 AM-08:30 AM]	41	21.430
06/03/1999 [08:30 AM-08:45 AM]	46	19.150
06/03/1999 [08:45 AM-09:00 AM]	45	19.570
06/03/1999 [09:00 AM-09:15 AM]	51	17.310
06/03/1999 [09:15 AM-09:30 AM]	44	20.000
06/03/1999 [09:30 AM-09:45 AM]	41	21.430
06/03/1999 [09:45 AM-10:00 AM]	56	15.790
06/03/1999 [10:00 AM-10:15 AM]	50	17.650
06/03/1999 [10:15 AM-10:30 AM]	50	17.650
06/03/1999 [10:30 AM-10:45 AM]	62	14.290
06/03/1999 [10:45 AM-11:00 AM]	76	11.690
06/03/1999 [11:00 AM-11:15 AM]	67	13.240
06/03/1999 [11:15 AM-11:30 AM]	70	12.680
06/03/1999 [11:30 AM-11:45 AM]	79	11.250
06/03/1999 [11:45 AM-12:00 PM]	105	8.490
06/03/1999 [12:00 PM-12:15 PM]	98	9.090
06/03/1999 [12:15 PM-12:30 PM]	118	7.560
06/03/1999 [12:30 PM-12:45 PM]	105	8.490
06/03/1999 [12:45 PM-01:00 PM]	134	6.670
06/03/1999 [01:00 PM-01:15 PM]	111	8.040
06/03/1999 [01:15 PM-01:30 PM]	104	8.570
06/03/1999 [01:30 PM-01:45 PM]	86	10.340
06/03/1999 [01:45 PM-02:00 PM]	93	9.570

Date/Time/Volume/Average Headway Report

HI-Star ID: 2520	Begin: 06/02/1999 03:00 PM	End: 06/03/1999 03:00 PM
Street: Dell Range E. of Powderhouse	Lane: WB IN	Hours: 24.00
State: WY	Oper: RS	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 4633
County: Laramie	AADT Factor: 1	AADT Count: 0

Date & Time Range	Volume	Avg Headway (Seconds)
06/03/1999 [02:00 PM-02:15 PM]	87	10.230
06/03/1999 [02:15 PM-02:30 PM]	78	11.390
06/03/1999 [02:30 PM-02:45 PM]	86	10.340
06/03/1999 [02:45 PM-03:00 PM]	76	11.690

Date/Time/Volume/Average Headway Report

HI-Star ID: 2520	Begin: 06/02/1999 03:00 PM	End: 06/03/1999 03:00 PM
Street: Dell Range E. of Powderhouse	Lane: WB IN	Hours: 24.00
State: WY	Oper: RS	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 4633
County: Laramie	AADT Factor: 1	AADT Count: 0

Date & Time Range					
06/03/1999 [01:30 AM-01:45 AM]	2	038	Mph	56 F	Wet
06/03/1999 [01:45 AM-02:00 AM]	2	038	Mph	54 F	Wet
06/03/1999 [02:00 AM-02:15 AM]	1	040	Mph	56 F	Wet
06/03/1999 [02:15 AM-02:30 AM]	3	033	Mph	56 F	Wet
06/03/1999 [02:30 AM-02:45 AM]	2	038	Mph	54 F	Wet
06/03/1999 [02:45 AM-03:00 AM]	0	000	Mph	54 F	Wet
06/03/1999 [03:00 AM-03:15 AM]	0	000	Mph	52 F	Wet
06/03/1999 [03:15 AM-03:30 AM]	2	028	Mph	52 F	Wet
06/03/1999 [03:30 AM-03:45 AM]	2	040	Mph	52 F	Wet
06/03/1999 [03:45 AM-04:00 AM]	1	025	Mph	52 F	Wet
06/03/1999 [04:00 AM-04:15 AM]	0	000	Mph	52 F	Wet
06/03/1999 [04:15 AM-04:30 AM]	1	040	Mph	52 F	Wet
06/03/1999 [04:30 AM-04:45 AM]	5	045	Mph	52 F	Wet
06/03/1999 [04:45 AM-05:00 AM]	8	037	Mph	52 F	Wet
06/03/1999 [05:00 AM-05:15 AM]	6	038	Mph	52 F	Wet
06/03/1999 [05:15 AM-05:30 AM]	5	042	Mph	52 F	Wet
06/03/1999 [05:30 AM-05:45 AM]	8	040	Mph	52 F	Wet
06/03/1999 [05:45 AM-06:00 AM]	16	039	Mph	52 F	Wet
06/03/1999 [06:00 AM-06:15 AM]	19	039	Mph	52 F	Wet
06/03/1999 [06:15 AM-06:30 AM]	23	041	Mph	54 F	Wet
06/03/1999 [06:30 AM-06:45 AM]	54	041	Mph	54 F	Wet
06/03/1999 [06:45 AM-07:00 AM]	76	038	Mph	56 F	Wet
06/03/1999 [07:00 AM-07:15 AM]	55	040	Mph	60 F	Wet
06/03/1999 [07:15 AM-07:30 AM]	65	041	Mph	64 F	Wet
06/03/1999 [07:30 AM-07:45 AM]	51	041	Mph	66 F	Wet
06/03/1999 [07:45 AM-08:00 AM]	41	040	Mph	70 F	Wet
06/03/1999 [08:00 AM-08:15 AM]	49	041	Mph	74 F	Wet
06/03/1999 [08:15 AM-08:30 AM]	41	039	Mph	76 F	Wet
06/03/1999 [08:30 AM-08:45 AM]	46	039	Mph	80 F	Wet
06/03/1999 [08:45 AM-09:00 AM]	45	040	Mph	83 F	Wet
06/03/1999 [09:00 AM-09:15 AM]	51	038	Mph	87 F	Wet
06/03/1999 [09:15 AM-09:30 AM]	44	038	Mph	89 F	Wet
06/03/1999 [09:30 AM-09:45 AM]	41	037	Mph	93 F	Wet
06/03/1999 [09:45 AM-10:00 AM]	56	039	Mph	95 F	Wet
06/03/1999 [10:00 AM-10:15 AM]	50	037	Mph	97 F	Wet
06/03/1999 [10:15 AM-10:30 AM]	50	036	Mph	101 F	Wet
06/03/1999 [10:30 AM-10:45 AM]	62	040	Mph	103 F	Wet
06/03/1999 [10:45 AM-11:00 AM]	76	038	Mph	105 F	Wet
06/03/1999 [11:00 AM-11:15 AM]	67	037	Mph	107 F	Wet
06/03/1999 [11:15 AM-11:30 AM]	70	038	Mph	109 F	Wet
06/03/1999 [11:30 AM-11:45 AM]	79	037	Mph	111 F	Wet
06/03/1999 [11:45 AM-12:00 PM]	105	036	Mph	113 F	Wet
06/03/1999 [12:00 PM-12:15 PM]	98	037	Mph	115 F	Wet
06/03/1999 [12:15 PM-12:30 PM]	118	037	Mph	111 F	Wet
06/03/1999 [12:30 PM-12:45 PM]	105	037	Mph	113 F	Wet
06/03/1999 [12:45 PM-01:00 PM]	134	036	Mph	115 F	Wet

Date/Time/Volume/Average Headway Report

HI-Star ID: 2520	Begin: 06/02/1999 03:00 PM	End: 06/03/1999 03:00 PM
Street: Dell Range E. of Powderhouse	Lane: WB IN	Hours: 24.00
State: WY	Oper: RS	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 4633
County: Laramie	AADT Factor: 1	AADT Count: 0

Date & Time Range					
06/03/1999 [01:00 PM-01:15 PM]	111	035	Mph	115 F	Wet
06/03/1999 [01:15 PM-01:30 PM]	104	035	Mph	113 F	Wet
06/03/1999 [01:30 PM-01:45 PM]	86	035	Mph	117 F	Wet
06/03/1999 [01:45 PM-02:00 PM]	93	038	Mph	119 F	Wet
06/03/1999 [02:00 PM-02:15 PM]	87	037	Mph	119 F	Wet
06/03/1999 [02:15 PM-02:30 PM]	78	039	Mph	121 F	Wet
06/03/1999 [02:30 PM-02:45 PM]	86	036	Mph	121 F	Wet
06/03/1999 [02:45 PM-03:00 PM]	76	037	Mph	121 F	Wet

NU-METRICS Traffic Analyzer Study
Computer Generated Summary Report
Route: Dell Range E. of Powderhouse
Location: Dell Range E. of Powderhouse

A study of vehicle traffic was conducted with HI-STAR unit number 600. The study was done in the EB IN lane on Dell Range E. of Powderhouse in Cheyenne, WY in Laramie county. The study began on 06/02/1999 at 03:00 PM and concluded on 06/03/1999 at 03:00 PM, lasting a total of 24 hours. Data was recorded in 15 minute time periods. The total recorded volume of traffic showed 6,980 vehicles passed through the location with a peak volume of 184 on 06/03/1999 at 12:00 PM and a minimum volume of 0 on 06/03/1999 at 04:15 AM.

SPEED

Chart 1 lists the values of the speed bins and the total traffic volume for each bin.

Chart 1

< 10	10	15	20	25	30	35	40	45	50	55	60	65	70	> 71
0	27	16	104	558	1747	2175	1369	442	117	31	20	8	4	11

Half of the vehicles were traveling at 35 Mph or a lower speed. The average speed for all classified vehicles was 35 Mph with 9 55 percent exceeding the posted speed of 40 Mph. The HI-STAR found 0.65 percent of the total vehicles were traveling in excess of 55 Mph. The mode speed for this traffic study was 35 Mph and the 85th percentile was 39 18 Mph.

CLASSIFICATION

Chart 2 lists the values of the eight classification bins and the total traffic volume accumulated for each bin.

Chart 2

< 20	20	28	40	50	60	70	> 71
5919	574	90	23	8	8	2	5

Most of the vehicles classified during the study were Passenger Cars. The number of Passenger Cars in the study was 6493 which represents 97 90 percent of the total classifed vehicles. The number of Small Trucks in the study was 90 which represents 1.40 percent of the total classifed vehicles. The number of Trucks/Busses in the study was 23 which represents 0.30 percent of the total classifed vehicles. The number of Tractor Trailers in the study was 23 which represents 0.30 percent of the total classifed vehicles.

HEADWAY

During the peak time period on 06/03/1999 at 12:00 PM the average headway between the vehicles was 4.86 seconds. The slowest traffic period was on 06/03/1999 at 04:15 AM. During this slowest period, the average headway was 900 0 seconds

WEATHER

The roadway surface temperature over the period of the study varied between 50 and 117 degrees Fahrenheit. The HI-STAR determined that the roadway surface was Dry 100.00 percent of the time.

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 600	Begin: 06/02/1999 03:00 PM	End: 06/03/1999 03:00 PM
Street: Dell Range E. of Powderhouse	Lane: EB IN	Hours: 24.00
State: WY	Oper: RS	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 6980
County: Laramie	AADT Factor: 1	AADT Count: 6980

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
06/02/1999 [03:00 PM-03:15 PM]	146	033 Mph	111 F	Dry
06/02/1999 [03:15 PM-03:30 PM]	127	034 Mph	111 F	Dry
06/02/1999 [03:30 PM-03:45 PM]	127	034 Mph	109 F	Dry
06/02/1999 [03:45 PM-04:00 PM]	122	035 Mph	97 F	Dry
06/02/1999 [04:00 PM-04:15 PM]	144	033 Mph	93 F	Dry
06/02/1999 [04:15 PM-04:30 PM]	138	034 Mph	87 F	Dry
06/02/1999 [04:30 PM-04:45 PM]	165	034 Mph	85 F	Dry
06/02/1999 [04:45 PM-05:00 PM]	162	035 Mph	83 F	Dry
06/02/1999 [05:00 PM-05:15 PM]	167	033 Mph	82 F	Dry
06/02/1999 [05:15 PM-05:30 PM]	174	035 Mph	83 F	Dry
06/02/1999 [05:30 PM-05:45 PM]	149	035 Mph	80 F	Dry
06/02/1999 [05:45 PM-06:00 PM]	125	034 Mph	80 F	Dry
06/02/1999 [06:00 PM-06:15 PM]	110	037 Mph	78 F	Dry
06/02/1999 [06:15 PM-06:30 PM]	116	034 Mph	78 F	Dry
06/02/1999 [06:30 PM-06:45 PM]	110	035 Mph	78 F	Dry
06/02/1999 [06:45 PM-07:00 PM]	132	035 Mph	78 F	Dry
06/02/1999 [07:00 PM-07:15 PM]	110	035 Mph	76 F	Dry
06/02/1999 [07:15 PM-07:30 PM]	132	034 Mph	76 F	Dry
06/02/1999 [07:30 PM-07:45 PM]	99	035 Mph	76 F	Dry
06/02/1999 [07:45 PM-08:00 PM]	84	036 Mph	74 F	Dry
06/02/1999 [08:00 PM-08:15 PM]	80	035 Mph	72 F	Dry
06/02/1999 [08:15 PM-08:30 PM]	75	036 Mph	72 F	Dry
06/02/1999 [08:30 PM-08:45 PM]	78	035 Mph	70 F	Dry
06/02/1999 [08:45 PM-09:00 PM]	61	034 Mph	70 F	Dry
06/02/1999 [09:00 PM-09:15 PM]	62	036 Mph	68 F	Dry
06/02/1999 [09:15 PM-09:30 PM]	62	036 Mph	66 F	Dry
06/02/1999 [09:30 PM-09:45 PM]	52	036 Mph	62 F	Dry
06/02/1999 [09:45 PM-10:00 PM]	28	037 Mph	60 F	Dry
06/02/1999 [10:00 PM-10:15 PM]	30	037 Mph	58 F	Dry
06/02/1999 [10:15 PM-10:30 PM]	27	035 Mph	58 F	Dry
06/02/1999 [10:30 PM-10:45 PM]	22	039 Mph	58 F	Dry
06/02/1999 [10:45 PM-11:00 PM]	11	037 Mph	56 F	Dry
06/02/1999 [11:00 PM-11:15 PM]	24	037 Mph	56 F	Dry
06/02/1999 [11:15 PM-11:30 PM]	12	041 Mph	56 F	Dry
06/02/1999 [11:30 PM-11:45 PM]	11	035 Mph	54 F	Dry
06/02/1999 [11:45 PM-12:00 AM]	11	037 Mph	54 F	Dry
06/03/1999 [12:00 AM-12:15 AM]	7	037 Mph	54 F	Dry
06/03/1999 [12:15 AM-12:30 AM]	11	039 Mph	54 F	Dry
06/03/1999 [12:30 AM-12:45 AM]	9	039 Mph	54 F	Dry
06/03/1999 [12:45 AM-01:00 AM]	5	036 Mph	54 F	Dry
06/03/1999 [01:00 AM-01:15 AM]	2	042 Mph	54 F	Dry
06/03/1999 [01:15 AM-01:30 AM]	4	034 Mph	54 F	Dry
06/03/1999 [01:30 AM-01:45 AM]	2	030 Mph	54 F	Dry
06/03/1999 [01:45 AM-02:00 AM]	2	035 Mph	54 F	Dry
06/03/1999 [02:00 AM-02:15 AM]	2	020 Mph	54 F	Dry
06/03/1999 [02:15 AM-02:30 AM]	4	040 Mph	54 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 600
Street: Dell Range E. of Powderhouse
State: WY
City: Cheyenne
County: Laramie

Begin: 06/02/1999 03:00 PM
Lane: EB IN
Oper: RS
Posted: 40
AADT Factor: 1

End: 06/03/1999 03:00 PM
Hours: 24.00
Period: 15
Raw Count: 6980
AADT Count: 6980

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
06/03/1999 [02:30 AM-02:45 AM]	2	038 Mph	54 F	Dry
06/03/1999 [02:45 AM-03:00 AM]	2	040 Mph	52 F	Dry
06/03/1999 [03:00 AM-03:15 AM]	1	045 Mph	52 F	Dry
06/03/1999 [03:15 AM-03:30 AM]	1	035 Mph	52 F	Dry
06/03/1999 [03:30 AM-03:45 AM]	1	035 Mph	52 F	Dry
06/03/1999 [03:45 AM-04:00 AM]	2	032 Mph	52 F	Dry
06/03/1999 [04:00 AM-04:15 AM]	3	045 Mph	52 F	Dry
06/03/1999 [04:15 AM-04:30 AM]	0	000 Mph	52 F	Dry
06/03/1999 [04:30 AM-04:45 AM]	6	038 Mph	52 F	Dry
06/03/1999 [04:45 AM-05:00 AM]	3	040 Mph	52 F	Dry
06/03/1999 [05:00 AM-05:15 AM]	4	035 Mph	52 F	Dry
06/03/1999 [05:15 AM-05:30 AM]	12	035 Mph	52 F	Dry
06/03/1999 [05:30 AM-05:45 AM]	11	040 Mph	50 F	Dry
06/03/1999 [05:45 AM-06:00 AM]	15	036 Mph	52 F	Dry
06/03/1999 [06:00 AM-06:15 AM]	15	034 Mph	52 F	Dry
06/03/1999 [06:15 AM-06:30 AM]	20	036 Mph	52 F	Dry
06/03/1999 [06:30 AM-06:45 AM]	26	039 Mph	52 F	Dry
06/03/1999 [06:45 AM-07:00 AM]	36	035 Mph	56 F	Dry
06/03/1999 [07:00 AM-07:15 AM]	39	037 Mph	58 F	Dry
06/03/1999 [07:15 AM-07:30 AM]	45	036 Mph	62 F	Dry
06/03/1999 [07:30 AM-07:45 AM]	46	038 Mph	66 F	Dry
06/03/1999 [07:45 AM-08:00 AM]	82	038 Mph	68 F	Dry
06/03/1999 [08:00 AM-08:15 AM]	59	038 Mph	72 F	Dry
06/03/1999 [08:15 AM-08:30 AM]	65	037 Mph	76 F	Dry
06/03/1999 [08:30 AM-08:45 AM]	51	037 Mph	78 F	Dry
06/03/1999 [08:45 AM-09:00 AM]	74	033 Mph	82 F	Dry
06/03/1999 [09:00 AM-09:15 AM]	78	034 Mph	83 F	Dry
06/03/1999 [09:15 AM-09:30 AM]	63	036 Mph	87 F	Dry
06/03/1999 [09:30 AM-09:45 AM]	80	034 Mph	89 F	Dry
06/03/1999 [09:45 AM-10:00 AM]	86	034 Mph	91 F	Dry
06/03/1999 [10:00 AM-10:15 AM]	93	035 Mph	95 F	Dry
06/03/1999 [10:15 AM-10:30 AM]	92	033 Mph	97 F	Dry
06/03/1999 [10:30 AM-10:45 AM]	94	033 Mph	99 F	Dry
06/03/1999 [10:45 AM-11:00 AM]	129	035 Mph	101 F	Dry
06/03/1999 [11:00 AM-11:15 AM]	131	034 Mph	103 F	Dry
06/03/1999 [11:15 AM-11:30 AM]	139	033 Mph	107 F	Dry
06/03/1999 [11:30 AM-11:45 AM]	154	035 Mph	107 F	Dry
06/03/1999 [11:45 AM-12:00 PM]	161	034 Mph	109 F	Dry
06/03/1999 [12:00 PM-12:15 PM]	184	035 Mph	111 F	Dry
06/03/1999 [12:15 PM-12:30 PM]	164	033 Mph	109 F	Dry
06/03/1999 [12:30 PM-12:45 PM]	155	034 Mph	109 F	Dry
06/03/1999 [12:45 PM-01:00 PM]	170	034 Mph	113 F	Dry
06/03/1999 [01:00 PM-01:15 PM]	136	034 Mph	111 F	Dry
06/03/1999 [01:15 PM-01:30 PM]	147	035 Mph	109 F	Dry
06/03/1999 [01:30 PM-01:45 PM]	153	034 Mph	113 F	Dry
06/03/1999 [01:45 PM-02:00 PM]	137	034 Mph	115 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 600	Begin: 06/02/1999 03:00 PM	End: 06/03/1999 03:00 PM
Street: Dell Range E. of Powderhouse	Lane: EB IN	Hours: 24.00
State: WY	Oper: RS	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 6980
County: Laramie	AADT Factor: 1	AADT Count: 6980

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
06/03/1999 [02:00 PM-02:15 PM]	121	034 Mph	115 F	Dry
06/03/1999 [02:15 PM-02:30 PM]	123	035 Mph	115 F	Dry
06/03/1999 [02:30 PM-02:45 PM]	128	036 Mph	117 F	Dry
06/03/1999 [02:45 PM-03:00 PM]	108	035 Mph	117 F	Dry

NU-METRICS Traffic Analyzer Study
Computer Generated Summary Report
Route: Dell Range E. of Powderhouse
Location: Dell Range E. of Powderhouse

A study of vehicle traffic was conducted with HI-STAR unit number 597. The study was done in the EB OUT lane on Dell Range E. of Powderhouse in Cheyenne, WY in Laramie county. The study began on 06/02/1999 at 03:00 PM and concluded on 06/03/1999 at 03:00 PM, lasting a total of 24 hours. Data was recorded in 15 minute time periods. The total recorded volume of traffic showed 5,759 vehicles passed through the location with a peak volume of 157 on 06/02/1999 at 05:00 PM and a minimum volume of 0 on 06/03/1999 at 01:45 AM.

SPEED

Chart 1 lists the values of the speed bins and the total traffic volume for each bin.

Chart 1

< 10	10	15	20	25	30	35	40	45	50	55	60	65	70	> 71
0	10	11	44	370	1389	1791	1358	445	107	26	13	7	0	11

Half of the vehicles were traveling at 35 Mph or a lower speed. The average speed for all classified vehicles was 35 Mph with 10.9 percent exceeding the posted speed of 40 Mph. The HI-STAR found 0.56 percent of the total vehicles were traveling in excess of 55 Mph. The mode speed for this traffic study was 35 Mph and the 85th percentile was 39.66 Mph.

CLASSIFICATION

Chart 2 lists the values of the eight classification bins and the total traffic volume accumulated for each bin.

Chart 2

< 20	20	28	40	50	60	70	> 71
5051	416	85	14	6	8	0	2

Most of the vehicles classified during the study were Passenger Cars. The number of Passenger Cars in the study was 5467 which represents 97.90 percent of the total classifed vehicles. The number of Small Trucks in the study was 85 which represents 1.50 percent of the total classifed vehicles. The number of Trucks/Busses in the study was 14 which represents 0.30 percent of the total classifed vehicles. The number of Tractor Trailers in the study was 16 which represents 0.30 percent of the total classifed vehicles.

HEADWAY

During the peak time period, on 06/02/1999 at 05:00 PM the average headway between the vehicles was 5.7 seconds. The slowest traffic period was on 06/03/1999 at 01:45 AM. During this slowest period, the average headway was 900.0 seconds.

WEATHER

The roadway surface temperature over the period of the study varied between 50 and 117 degrees Fahrenheit. The HI-STAR determined that the roadway surface was Dry 100.00 percent of the time.

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 597	Begin: 06/02/1999 03:00 PM	End: 06/03/1999 03:00 PM
Street: Dell Range E. of Powderhouse	Lane: EB OUT	Hours: 24.00
State: WY	Oper: RS	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 5759
County: Laramie	AADT Factor: 1	AADT Count: 5759

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
06/02/1999 [03:00 PM-03:15 PM]	102	033 Mph	111 F	Dry
06/02/1999 [03:15 PM-03:30 PM]	105	035 Mph	111 F	Dry
06/02/1999 [03:30 PM-03:45 PM]	99	035 Mph	109 F	Dry
06/02/1999 [03:45 PM-04:00 PM]	105	034 Mph	99 F	Dry
06/02/1999 [04:00 PM-04:15 PM]	110	035 Mph	93 F	Dry
06/02/1999 [04:15 PM-04:30 PM]	105	037 Mph	87 F	Dry
06/02/1999 [04:30 PM-04:45 PM]	144	034 Mph	83 F	Dry
06/02/1999 [04:45 PM-05:00 PM]	121	035 Mph	83 F	Dry
06/02/1999 [05:00 PM-05:15 PM]	157	034 Mph	80 F	Dry
06/02/1999 [05:15 PM-05:30 PM]	144	035 Mph	82 F	Dry
06/02/1999 [05:30 PM-05:45 PM]	122	034 Mph	80 F	Dry
06/02/1999 [05:45 PM-06:00 PM]	123	035 Mph	80 F	Dry
06/02/1999 [06:00 PM-06:15 PM]	109	035 Mph	78 F	Dry
06/02/1999 [06:15 PM-06:30 PM]	91	035 Mph	78 F	Dry
06/02/1999 [06:30 PM-06:45 PM]	77	035 Mph	78 F	Dry
06/02/1999 [06:45 PM-07:00 PM]	82	036 Mph	76 F	Dry
06/02/1999 [07:00 PM-07:15 PM]	64	038 Mph	76 F	Dry
06/02/1999 [07:15 PM-07:30 PM]	75	035 Mph	76 F	Dry
06/02/1999 [07:30 PM-07:45 PM]	63	037 Mph	76 F	Dry
06/02/1999 [07:45 PM-08:00 PM]	74	037 Mph	74 F	Dry
06/02/1999 [08:00 PM-08:15 PM]	64	036 Mph	72 F	Dry
06/02/1999 [08:15 PM-08:30 PM]	61	036 Mph	72 F	Dry
06/02/1999 [08:30 PM-08:45 PM]	48	035 Mph	70 F	Dry
06/02/1999 [08:45 PM-09:00 PM]	36	036 Mph	70 F	Dry
06/02/1999 [09:00 PM-09:15 PM]	50	036 Mph	70 F	Dry
06/02/1999 [09:15 PM-09:30 PM]	49	038 Mph	68 F	Dry
06/02/1999 [09:30 PM-09:45 PM]	38	037 Mph	64 F	Dry
06/02/1999 [09:45 PM-10:00 PM]	29	037 Mph	60 F	Dry
06/02/1999 [10:00 PM-10:15 PM]	18	036 Mph	58 F	Dry
06/02/1999 [10:15 PM-10:30 PM]	17	039 Mph	58 F	Dry
06/02/1999 [10:30 PM-10:45 PM]	22	036 Mph	58 F	Dry
06/02/1999 [10:45 PM-11:00 PM]	23	035 Mph	58 F	Dry
06/02/1999 [11:00 PM-11:15 PM]	13	035 Mph	56 F	Dry
06/02/1999 [11:15 PM-11:30 PM]	12	040 Mph	56 F	Dry
06/02/1999 [11:30 PM-11:45 PM]	21	040 Mph	56 F	Dry
06/02/1999 [11:45 PM-12:00 AM]	14	038 Mph	56 F	Dry
06/03/1999 [12:00 AM-12:15 AM]	8	037 Mph	56 F	Dry
06/03/1999 [12:15 AM-12:30 AM]	6	040 Mph	56 F	Dry
06/03/1999 [12:30 AM-12:45 AM]	3	033 Mph	54 F	Dry
06/03/1999 [12:45 AM-01:00 AM]	7	044 Mph	54 F	Dry
06/03/1999 [01:00 AM-01:15 AM]	5	038 Mph	54 F	Dry
06/03/1999 [01:15 AM-01:30 AM]	4	037 Mph	54 F	Dry
06/03/1999 [01:30 AM-01:45 AM]	3	033 Mph	54 F	Dry
06/03/1999 [01:45 AM-02:00 AM]	0	000 Mph	54 F	Dry
06/03/1999 [02:00 AM-02:15 AM]	4	035 Mph	54 F	Dry
06/03/1999 [02:15 AM-02:30 AM]	2	035 Mph	54 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

Hi-Star ID: 597	Begin: 06/02/1999 03:00 PM	End: 06/03/1999 03:00 PM
Street: Dell Range E. of Powderhouse	Lane: EB OUT	Hours: 24.00
State: WY	Oper: RS	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 5759
County: Laramie	AADT Factor: 1	AADT Count: 5759

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
06/03/1999 [02:30 AM-02:45 AM]	2	030 Mph	54 F	Dry
06/03/1999 [02:45 AM-03:00 AM]	1	030 Mph	52 F	Dry
06/03/1999 [03:00 AM-03:15 AM]	2	042 Mph	52 F	Dry
06/03/1999 [03:15 AM-03:30 AM]	2	040 Mph	52 F	Dry
06/03/1999 [03:30 AM-03:45 AM]	2	038 Mph	52 F	Dry
06/03/1999 [03:45 AM-04:00 AM]	2	032 Mph	52 F	Dry
06/03/1999 [04:00 AM-04:15 AM]	2	035 Mph	52 F	Dry
06/03/1999 [04:15 AM-04:30 AM]	4	039 Mph	52 F	Dry
06/03/1999 [04:30 AM-04:45 AM]	3	035 Mph	52 F	Dry
06/03/1999 [04:45 AM-05:00 AM]	2	038 Mph	52 F	Dry
06/03/1999 [05:00 AM-05:15 AM]	6	036 Mph	52 F	Dry
06/03/1999 [05:15 AM-05:30 AM]	6	035 Mph	52 F	Dry
06/03/1999 [05:30 AM-05:45 AM]	11	040 Mph	50 F	Dry
06/03/1999 [05:45 AM-06:00 AM]	14	038 Mph	52 F	Dry
06/03/1999 [06:00 AM-06:15 AM]	14	039 Mph	52 F	Dry
06/03/1999 [06:15 AM-06:30 AM]	21	040 Mph	52 F	Dry
06/03/1999 [06:30 AM-06:45 AM]	31	037 Mph	54 F	Dry
06/03/1999 [06:45 AM-07:00 AM]	46	037 Mph	56 F	Dry
06/03/1999 [07:00 AM-07:15 AM]	43	037 Mph	60 F	Dry
06/03/1999 [07:15 AM-07:30 AM]	54	037 Mph	64 F	Dry
06/03/1999 [07:30 AM-07:45 AM]	60	038 Mph	66 F	Dry
06/03/1999 [07:45 AM-08:00 AM]	77	037 Mph	70 F	Dry
06/03/1999 [08:00 AM-08:15 AM]	85	036 Mph	72 F	Dry
06/03/1999 [08:15 AM-08:30 AM]	53	037 Mph	76 F	Dry
06/03/1999 [08:30 AM-08:45 AM]	52	038 Mph	80 F	Dry
06/03/1999 [08:45 AM-09:00 AM]	76	036 Mph	82 F	Dry
06/03/1999 [09:00 AM-09:15 AM]	63	035 Mph	85 F	Dry
06/03/1999 [09:15 AM-09:30 AM]	62	035 Mph	87 F	Dry
06/03/1999 [09:30 AM-09:45 AM]	85	035 Mph	89 F	Dry
06/03/1999 [09:45 AM-10:00 AM]	91	036 Mph	93 F	Dry
06/03/1999 [10:00 AM-10:15 AM]	70	036 Mph	95 F	Dry
06/03/1999 [10:15 AM-10:30 AM]	78	035 Mph	97 F	Dry
06/03/1999 [10:30 AM-10:45 AM]	81	034 Mph	99 F	Dry
06/03/1999 [10:45 AM-11:00 AM]	87	035 Mph	101 F	Dry
06/03/1999 [11:00 AM-11:15 AM]	94	034 Mph	97 F	Dry
06/03/1999 [11:15 AM-11:30 AM]	117	035 Mph	103 F	Dry
06/03/1999 [11:30 AM-11:45 AM]	155	034 Mph	105 F	Dry
06/03/1999 [11:45 AM-12:00 PM]	134	034 Mph	109 F	Dry
06/03/1999 [12:00 PM-12:15 PM]	147	035 Mph	111 F	Dry
06/03/1999 [12:15 PM-12:30 PM]	134	033 Mph	109 F	Dry
06/03/1999 [12:30 PM-12:45 PM]	112	037 Mph	111 F	Dry
06/03/1999 [12:45 PM-01:00 PM]	112	035 Mph	113 F	Dry
06/03/1999 [01:00 PM-01:15 PM]	123	035 Mph	111 F	Dry
06/03/1999 [01:15 PM-01:30 PM]	115	036 Mph	109 F	Dry
06/03/1999 [01:30 PM-01:45 PM]	113	036 Mph	115 F	Dry
06/03/1999 [01:45 PM-02:00 PM]	99	036 Mph	115 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 597	Begin: 06/02/1999 03:00 PM	End: 06/03/1999 03:00 PM
Street: Dell Range E. of Powderhouse	Lane: EB OUT	Hours: 24.00
State: WY	Oper: RS	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 5759
County: Laramie	AADT Factor: 1	AADT Count: 5759

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
06/03/1999 [02:00 PM-02:15 PM]	113	036 Mph	115 F	Dry
06/03/1999 [02:15 PM-02:30 PM]	100	035 Mph	117 F	Dry
06/03/1999 [02:30 PM-02:45 PM]	79	035 Mph	117 F	Dry
06/03/1999 [02:45 PM-03:00 PM]	95	036 Mph	117 F	Dry

NU-METRICS Traffic Analyzer Study
Computer Generated Summary Report
Route: Dell Range E. of Converse
Location: Dell Range E. of Converse

A study of vehicle traffic was conducted with HI-STAR unit number 3453. The study was done in the WB inside lane on Dell Range E. of Converse in Cheyenne, WY in Laramie county. The study began on 02/07/2000 at 10:00 PM and concluded on 02/08/2000 at 10:00 PM, lasting a total of 24 hours. Data was recorded in 15 minute time periods. The total recorded volume of traffic showed 5,569 vehicles passed through the location with a peak volume of 127 on 02/08/2000 at 03:30 PM and a minimum volume of 1 on 02/08/2000 at 01:00 AM.

SPEED
Chart 1 lists the values of the speed bins and the total traffic volume for each bin.

Chart 1

< 10	10	15	20	25	30	35	40	45	50	55	60	65	70	> 71
0	19	22	72	476	1796	2266	750	123	28	8	2	2	0	2

Half of the vehicles were traveling at 35 Mph or a lower speed. The average speed for all classified vehicles was 33 Mph with 2.96 percent exceeding the posted speed of 40 Mph. The HI-STAR found 0.11 percent of the total vehicles were traveling in excess of 55 Mph. The mode speed for this traffic study was 35 Mph and the 85th percentile was 36.03 Mph.

CLASSIFICATION
Chart 2 lists the values of the eight Classification bins and the total traffic volume accumulated for each bin.

Chart 2

< 21	21	28	40	50	60	70	> 71
5350	145	51	11	4	5	0	0

Most of the vehicles classified during the study were Passenger Cars. The number of Passenger Cars in the study was 5495 which represents 98.70 percent of the total classifed vehicles. The number of Small Trucks in the study was 51 which represents 0.90 percent of the total classifed vehicles. The number of Trucks/Busses in the study was 11 which represents 0.20 percent of the total classifed vehicles. The number of Tractor Trailers in the study was 9 which represents 0.20 percent of the total classifed vehicles.

HEADWAY
During the peak time period, on 02/08/2000 at 03:30 PM the average headway between the vehicles was 7.03 seconds. The slowest traffic period was on 02/08/2000 at 01:00 AM. During this slowest period, the average headway was 450.0 seconds.

WEATHER
The roadway surface temperature over the period of the study varied between 31 and 54 degrees Fahrenheit. The HI-STAR determined that the roadway surface was Dry 100.00 percent of the time.

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 3453	Begin: 02/07/2000 10:00 PM	End: 02/08/2000 10:00 PM
Street: Dell Range E. of Converse	Lane: WB inside	Hours: 24.00
State: WY	Oper: CY	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 5569
County: Laramie	AADT Factor: 1	AADT Count: 5569

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
02/07/2000 [10:00 PM-10:15 PM]	0019	033 Mph	39 F	Dry
02/07/2000 [10:15 PM-10:30 PM]	0018	034 Mph	39 F	Dry
02/07/2000 [10:30 PM-10:45 PM]	0013	034 Mph	37 F	Dry
02/07/2000 [10:45 PM-11:00 PM]	0009	032 Mph	37 F	Dry
02/07/2000 [11:00 PM-11:15 PM]	0004	039 Mph	37 F	Dry
02/07/2000 [11:15 PM-11:30 PM]	0004	035 Mph	35 F	Dry
02/07/2000 [11:30 PM-11:45 PM]	0007	033 Mph	35 F	Dry
02/07/2000 [11:45 PM-12:00 AM]	0007	036 Mph	35 F	Dry
02/08/2000 [12:00 AM-12:15 AM]	0002	032 Mph	35 F	Dry
02/08/2000 [12:15 AM-12:30 AM]	0003	035 Mph	35 F	Dry
02/08/2000 [12:30 AM-12:45 AM]	0004	031 Mph	35 F	Dry
02/08/2000 [12:45 AM-01:00 AM]	0003	037 Mph	35 F	Dry
02/08/2000 [01:00 AM-01:15 AM]	0001	035 Mph	35 F	Dry
02/08/2000 [01:15 AM-01:30 AM]	0007	027 Mph	33 F	Dry
02/08/2000 [01:30 AM-01:45 AM]	0001	035 Mph	33 F	Dry
02/08/2000 [01:45 AM-02:00 AM]	0001	030 Mph	33 F	Dry
02/08/2000 [02:00 AM-02:15 AM]	0001	035 Mph	31 F	Dry
02/08/2000 [02:15 AM-02:30 AM]	0003	032 Mph	31 F	Dry
02/08/2000 [02:30 AM-02:45 AM]	0003	028 Mph	33 F	Dry
02/08/2000 [02:45 AM-03:00 AM]	0002	042 Mph	33 F	Dry
02/08/2000 [03:00 AM-03:15 AM]	0005	033 Mph	33 F	Dry
02/08/2000 [03:15 AM-03:30 AM]	0005	031 Mph	33 F	Dry
02/08/2000 [03:30 AM-03:45 AM]	0003	033 Mph	33 F	Dry
02/08/2000 [03:45 AM-04:00 AM]	0002	035 Mph	33 F	Dry
02/08/2000 [04:00 AM-04:15 AM]	0001	030 Mph	33 F	Dry
02/08/2000 [04:15 AM-04:30 AM]	0002	022 Mph	33 F	Dry
02/08/2000 [04:30 AM-04:45 AM]	0008	032 Mph	33 F	Dry
02/08/2000 [04:45 AM-05:00 AM]	0013	037 Mph	33 F	Dry
02/08/2000 [05:00 AM-05:15 AM]	0014	035 Mph	33 F	Dry
02/08/2000 [05:15 AM-05:30 AM]	0016	036 Mph	33 F	Dry
02/08/2000 [05:30 AM-05:45 AM]	0013	035 Mph	33 F	Dry
02/08/2000 [05:45 AM-06:00 AM]	0040	034 Mph	33 F	Dry
02/08/2000 [06:00 AM-06:15 AM]	0028	032 Mph	35 F	Dry
02/08/2000 [06:15 AM-06:30 AM]	0035	035 Mph	35 F	Dry
02/08/2000 [06:30 AM-06:45 AM]	0043	035 Mph	35 F	Dry
02/08/2000 [06:45 AM-07:00 AM]	0083	034 Mph	35 F	Dry
02/08/2000 [07:00 AM-07:15 AM]	0088	035 Mph	37 F	Dry
02/08/2000 [07:15 AM-07:30 AM]	0079	036 Mph	37 F	Dry
02/08/2000 [07:30 AM-07:45 AM]	0087	035 Mph	39 F	Dry
02/08/2000 [07:45 AM-08:00 AM]	0122	033 Mph	39 F	Dry
02/08/2000 [08:00 AM-08:15 AM]	0113	031 Mph	41 F	Dry
02/08/2000 [08:15 AM-08:30 AM]	0086	032 Mph	41 F	Dry
02/08/2000 [08:30 AM-08:45 AM]	0086	033 Mph	42 F	Dry
02/08/2000 [08:45 AM-09:00 AM]	0109	033 Mph	42 F	Dry
02/08/2000 [09:00 AM-09:15 AM]	0064	034 Mph	42 F	Dry
02/08/2000 [09:15 AM-09:30 AM]	0059	036 Mph	42 F	Dry
02/08/2000 [09:30 AM-09:45 AM]	0070	033 Mph	44 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 3453	Begin: 02/07/2000 10:00 PM	End: 02/08/2000 10:00 PM
Street: Dell Range E. of Converse	Lane: WB inside	Hours: 24.00
State: WY	Oper: CY	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 5569
County: Laramie	AADT Factor: 1	AADT Count: 5569

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
02/08/2000 [09:45 AM-10:00 AM]	0087	033 Mph	44 F	Dry
02/08/2000 [10:00 AM-10:15 AM]	0066	034 Mph	44 F	Dry
02/08/2000 [10:15 AM-10:30 AM]	0077	033 Mph	44 F	Dry
02/08/2000 [10:30 AM-10:45 AM]	0076	033 Mph	44 F	Dry
02/08/2000 [10:45 AM-11:00 AM]	0083	033 Mph	46 F	Dry
02/08/2000 [11:00 AM-11:15 AM]	0092	031 Mph	48 F	Dry
02/08/2000 [11:15 AM-11:30 AM]	0091	033 Mph	50 F	Dry
02/08/2000 [11:30 AM-11:45 AM]	0121	032 Mph	50 F	Dry
02/08/2000 [11:45 AM-12:00 PM]	0086	033 Mph	52 F	Dry
02/08/2000 [12:00 PM-12:15 PM]	0089	033 Mph	54 F	Dry
02/08/2000 [12:15 PM-12:30 PM]	0099	034 Mph	52 F	Dry
02/08/2000 [12:30 PM-12:45 PM]	0113	032 Mph	52 F	Dry
02/08/2000 [12:45 PM-01:00 PM]	0119	033 Mph	52 F	Dry
02/08/2000 [01:00 PM-01:15 PM]	0094	035 Mph	52 F	Dry
02/08/2000 [01:15 PM-01:30 PM]	0094	034 Mph	50 F	Dry
02/08/2000 [01:30 PM-01:45 PM]	0096	034 Mph	52 F	Dry
02/08/2000 [01:45 PM-02:00 PM]	0088	033 Mph	52 F	Dry
02/08/2000 [02:00 PM-02:15 PM]	0098	033 Mph	52 F	Dry
02/08/2000 [02:15 PM-02:30 PM]	0088	033 Mph	52 F	Dry
02/08/2000 [02:30 PM-02:45 PM]	0097	033 Mph	52 F	Dry
02/08/2000 [02:45 PM-03:00 PM]	0082	035 Mph	52 F	Dry
02/08/2000 [03:00 PM-03:15 PM]	0084	034 Mph	52 F	Dry
02/08/2000 [03:15 PM-03:30 PM]	0119	033 Mph	52 F	Dry
02/08/2000 [03:30 PM-03:45 PM]	0127	032 Mph	52 F	Dry
02/08/2000 [03:45 PM-04:00 PM]	0111	032 Mph	52 F	Dry
02/08/2000 [04:00 PM-04:15 PM]	0096	032 Mph	52 F	Dry
02/08/2000 [04:15 PM-04:30 PM]	0091	034 Mph	52 F	Dry
02/08/2000 [04:30 PM-04:45 PM]	0111	033 Mph	52 F	Dry
02/08/2000 [04:45 PM-05:00 PM]	0109	033 Mph	50 F	Dry
02/08/2000 [05:00 PM-05:15 PM]	0114	032 Mph	50 F	Dry
02/08/2000 [05:15 PM-05:30 PM]	0108	033 Mph	50 F	Dry
02/08/2000 [05:30 PM-05:45 PM]	0109	033 Mph	48 F	Dry
02/08/2000 [05:45 PM-06:00 PM]	0101	032 Mph	48 F	Dry
02/08/2000 [06:00 PM-06:15 PM]	0101	033 Mph	48 F	Dry
02/08/2000 [06:15 PM-06:30 PM]	0086	034 Mph	48 F	Dry
02/08/2000 [06:30 PM-06:45 PM]	0094	032 Mph	48 F	Dry
02/08/2000 [06:45 PM-07:00 PM]	0087	032 Mph	46 F	Dry
02/08/2000 [07:00 PM-07:15 PM]	0083	032 Mph	46 F	Dry
02/08/2000 [07:15 PM-07:30 PM]	0061	034 Mph	46 F	Dry
02/08/2000 [07:30 PM-07:45 PM]	0063	032 Mph	46 F	Dry
02/08/2000 [07:45 PM-08:00 PM]	0046	035 Mph	46 F	Dry
02/08/2000 [08:00 PM-08:15 PM]	0061	033 Mph	46 F	Dry
02/08/2000 [08:15 PM-08:30 PM]	0062	035 Mph	46 F	Dry
02/08/2000 [08:30 PM-08:45 PM]	0045	033 Mph	44 F	Dry
02/08/2000 [08:45 PM-09:00 PM]	0035	036 Mph	44 F	Dry
02/08/2000 [09:00 PM-09:15 PM]	0042	035 Mph	44 F	Dry
02/08/2000 [09:15 PM-09:30 PM]	0039	035 Mph	44 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 3453	Begin: 02/07/2000 10:00 PM	End: 02/08/2000 10:00 PM
Street: Dell Range E. of Converse	Lane: WB inside	Hours: 24.00
State: WY	Oper: CY	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 5569
County: Laramie	AADT Factor: 1	AADT Count: 5569

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
02/08/2000 [09:30 PM-09:45 PM]	0032	035 Mph	44 F	Dry
02/08/2000 [09:45 PM-10:00 PM]	0030	034 Mph	44 F	Dry

NU-METRICS Traffic Analyzer Study
Computer Generated Summary Report
Route: Dell Range E. of Converse
Location: Dell Range E. of Converse

A study of vehicle traffic was conducted with HI-STAR unit number 3327. The study was done in the WB outside lane on Dell Range E. of Converse in Cheyenne, WY in Laramie county. The study began on 02/07/2000 at 10:00 PM and concluded on 02/08/2000 at 10:00 PM, lasting a total of 24 hours. Data was recorded in 15 minute time periods. The total recorded volume of traffic showed 4,358 vehicles passed through the location with a peak volume of 135 on 02/08/2000 at 08:00 AM and a minimum volume of 0 on 02/08/2000 at 01:45 AM.

SPEED
Chart 1 lists the values of the speed bins and the total traffic volume for each bin.

Chart 1

< 10	10	15	20	25	30	35	40	45	50	55	60	65	70	> 71
0	28	19	25	92	569	1630	1360	445	119	40	14	7	1	8

Half of the vehicles were traveling at 35 Mph or a lower speed. The average speed for all classified vehicles was 37 Mph with 14.5 percent exceeding the posted speed of 40 Mph. The HI-STAR found 0.69 percent of the total vehicles were traveling in excess of 55 Mph. The mode speed for this traffic study was 35 Mph and the 85th percentile was 40.43 Mph.

CLASSIFICATION
Chart 2 lists the values of the eight Classification bins and the total traffic volume accumulated for each bin.

Chart 2

< 21	21	26	40	50	60	70	> 71
4260	75	16	5	1	0	0	0

Most of the vehicles classified during the study were Passenger Cars. The number of Passenger Cars in the study was 4335 which represents 99.50 percent of the total classifed vehicles. The number of Small Trucks in the study was 16 which represents 0.40 percent of the total classifed vehicles. The number of Trucks/Busses in the study was 5 which represents 0.10 percent of the total classifed vehicles. The number of Tractor Trailers in the study was 1 which represents 0.00 percent of the total classifed vehicles.

HEADWAY
During the peak time period, on 02/08/2000 at 08:00 AM the average headway between the vehicles was 6.62 seconds. The slowest traffic period was on 02/08/2000 at 01:45 AM. During this slowest period, the average headway was 900.0 seconds.

WEATHER
The roadway surface temperature over the period of the study varied between 31 and 56 degrees Fahrenheit. The HI-STAR determined that the roadway surface was Dry 100.00 percent of the time.

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 3327	Begin: 02/07/2000 10:00 PM	End: 02/08/2000 10:00 PM
Street: Dell Range E. of Converse	Lane: WB outside	Hours: 24.00
State: WY	Oper: CY	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 4358
County: Laramie	AADT Factor: 1	AADT Count: 4358

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
02/07/2000 [10:00 PM-10:15 PM]	0018	038 Mph	39 F	Dry
02/07/2000 [10:15 PM-10:30 PM]	0008	038 Mph	39 F	Dry
02/07/2000 [10:30 PM-10:45 PM]	0014	038 Mph	39 F	Dry
02/07/2000 [10:45 PM-11:00 PM]	0008	034 Mph	37 F	Dry
02/07/2000 [11:00 PM-11:15 PM]	0005	038 Mph	37 F	Dry
02/07/2000 [11:15 PM-11:30 PM]	0007	038 Mph	37 F	Dry
02/07/2000 [11:30 PM-11:45 PM]	0005	037 Mph	35 F	Dry
02/07/2000 [11:45 PM-12:00 AM]	0004	035 Mph	35 F	Dry
02/08/2000 [12:00 AM-12:15 AM]	0007	034 Mph	35 F	Dry
02/08/2000 [12:15 AM-12:30 AM]	0003	037 Mph	35 F	Dry
02/08/2000 [12:30 AM-12:45 AM]	0004	040 Mph	35 F	Dry
02/08/2000 [12:45 AM-01:00 AM]	0003	038 Mph	35 F	Dry
02/08/2000 [01:00 AM-01:15 AM]	0001	040 Mph	35 F	Dry
02/08/2000 [01:15 AM-01:30 AM]	0004	036 Mph	33 F	Dry
02/08/2000 [01:30 AM-01:45 AM]	0002	042 Mph	33 F	Dry
02/08/2000 [01:45 AM-02:00 AM]	0000	000 Mph	33 F	Dry
02/08/2000 [02:00 AM-02:15 AM]	0003	035 Mph	31 F	Dry
02/08/2000 [02:15 AM-02:30 AM]	0000	000 Mph	31 F	Dry
02/08/2000 [02:30 AM-02:45 AM]	0000	000 Mph	33 F	Dry
02/08/2000 [02:45 AM-03:00 AM]	0001	040 Mph	33 F	Dry
02/08/2000 [03:00 AM-03:15 AM]	0002	035 Mph	33 F	Dry
02/08/2000 [03:15 AM-03:30 AM]	0001	040 Mph	33 F	Dry
02/08/2000 [03:30 AM-03:45 AM]	0001	035 Mph	35 F	Dry
02/08/2000 [03:45 AM-04:00 AM]	0000	000 Mph	35 F	Dry
02/08/2000 [04:00 AM-04:15 AM]	0000	000 Mph	33 F	Dry
02/08/2000 [04:15 AM-04:30 AM]	0002	035 Mph	33 F	Dry
02/08/2000 [04:30 AM-04:45 AM]	0005	038 Mph	33 F	Dry
02/08/2000 [04:45 AM-05:00 AM]	0008	038 Mph	35 F	Dry
02/08/2000 [05:00 AM-05:15 AM]	0010	042 Mph	33 F	Dry
02/08/2000 [05:15 AM-05:30 AM]	0007	039 Mph	33 F	Dry
02/08/2000 [05:30 AM-05:45 AM]	0011	039 Mph	33 F	Dry
02/08/2000 [05:45 AM-06:00 AM]	0018	042 Mph	33 F	Dry
02/08/2000 [06:00 AM-06:15 AM]	0019	037 Mph	35 F	Dry
02/08/2000 [06:15 AM-06:30 AM]	0026	038 Mph	35 F	Dry
02/08/2000 [06:30 AM-06:45 AM]	0058	038 Mph	35 F	Dry
02/08/2000 [06:45 AM-07:00 AM]	0097	037 Mph	37 F	Dry
02/08/2000 [07:00 AM-07:15 AM]	0096	038 Mph	37 F	Dry
02/08/2000 [07:15 AM-07:30 AM]	0127	038 Mph	39 F	Dry
02/08/2000 [07:30 AM-07:45 AM]	0108	037 Mph	39 F	Dry
02/08/2000 [07:45 AM-08:00 AM]	0133	037 Mph	42 F	Dry
02/08/2000 [08:00 AM-08:15 AM]	0135	038 Mph	42 F	Dry
02/08/2000 [08:15 AM-08:30 AM]	0076	038 Mph	42 F	Dry
02/08/2000 [08:30 AM-08:45 AM]	0072	038 Mph	42 F	Dry
02/08/2000 [08:45 AM-09:00 AM]	0085	038 Mph	42 F	Dry
02/08/2000 [09:00 AM-09:15 AM]	0047	040 Mph	42 F	Dry
02/08/2000 [09:15 AM-09:30 AM]	0033	038 Mph	44 F	Dry
02/08/2000 [09:30 AM-09:45 AM]	0051	037 Mph	44 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 3327	Begin: 02/07/2000 10:00 PM	End: 02/08/2000 10:00 PM
Street: Dell Range E. of Converse	Lane: WB outside	Hours: 24.00
State: WY	Oper: CY	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 4358
County: Laramie	AADT Factor: 1	AADT Count: 4358

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
02/08/2000 [09:45 AM-10:00 AM]	0068	038 Mph	44 F	Dry
02/08/2000 [10:00 AM-10:15 AM]	0049	038 Mph	46 F	Dry
02/08/2000 [10:15 AM-10:30 AM]	0044	038 Mph	46 F	Dry
02/08/2000 [10:30 AM-10:45 AM]	0046	038 Mph	46 F	Dry
02/08/2000 [10:45 AM-11:00 AM]	0058	037 Mph	48 F	Dry
02/08/2000 [11:00 AM-11:15 AM]	0056	039 Mph	50 F	Dry
02/08/2000 [11:15 AM-11:30 AM]	0065	038 Mph	50 F	Dry
02/08/2000 [11:30 AM-11:45 AM]	0106	036 Mph	52 F	Dry
02/08/2000 [11:45 AM-12:00 PM]	0060	036 Mph	52 F	Dry
02/08/2000 [12:00 PM-12:15 PM]	0095	036 Mph	56 F	Dry
02/08/2000 [12:15 PM-12:30 PM]	0079	037 Mph	54 F	Dry
02/08/2000 [12:30 PM-12:45 PM]	0082	037 Mph	54 F	Dry
02/08/2000 [12:45 PM-01:00 PM]	0096	036 Mph	52 F	Dry
02/08/2000 [01:00 PM-01:15 PM]	0083	037 Mph	52 F	Dry
02/08/2000 [01:15 PM-01:30 PM]	0077	038 Mph	52 F	Dry
02/08/2000 [01:30 PM-01:45 PM]	0062	038 Mph	52 F	Dry
02/08/2000 [01:45 PM-02:00 PM]	0082	037 Mph	52 F	Dry
02/08/2000 [02:00 PM-02:15 PM]	0083	038 Mph	52 F	Dry
02/08/2000 [02:15 PM-02:30 PM]	0070	036 Mph	52 F	Dry
02/08/2000 [02:30 PM-02:45 PM]	0066	038 Mph	52 F	Dry
02/08/2000 [02:45 PM-03:00 PM]	0060	039 Mph	52 F	Dry
02/08/2000 [03:00 PM-03:15 PM]	0051	039 Mph	52 F	Dry
02/08/2000 [03:15 PM-03:30 PM]	0077	037 Mph	52 F	Dry
02/08/2000 [03:30 PM-03:45 PM]	0090	035 Mph	54 F	Dry
02/08/2000 [03:45 PM-04:00 PM]	0075	037 Mph	54 F	Dry
02/08/2000 [04:00 PM-04:15 PM]	0074	036 Mph	52 F	Dry
02/08/2000 [04:15 PM-04:30 PM]	0069	037 Mph	52 F	Dry
02/08/2000 [04:30 PM-04:45 PM]	0078	036 Mph	52 F	Dry
02/08/2000 [04:45 PM-05:00 PM]	0079	037 Mph	52 F	Dry
02/08/2000 [05:00 PM-05:15 PM]	0080	036 Mph	52 F	Dry
02/08/2000 [05:15 PM-05:30 PM]	0077	035 Mph	50 F	Dry
02/08/2000 [05:30 PM-05:45 PM]	0070	037 Mph	50 F	Dry
02/08/2000 [05:45 PM-06:00 PM]	0064	038 Mph	50 F	Dry
02/08/2000 [06:00 PM-06:15 PM]	0071	037 Mph	48 F	Dry
02/08/2000 [06:15 PM-06:30 PM]	0067	038 Mph	48 F	Dry
02/08/2000 [06:30 PM-06:45 PM]	0060	037 Mph	48 F	Dry
02/08/2000 [06:45 PM-07:00 PM]	0079	036 Mph	48 F	Dry
02/08/2000 [07:00 PM-07:15 PM]	0054	036 Mph	48 F	Dry
02/08/2000 [07:15 PM-07:30 PM]	0042	036 Mph	48 F	Dry
02/08/2000 [07:30 PM-07:45 PM]	0044	036 Mph	48 F	Dry
02/08/2000 [07:45 PM-08:00 PM]	0034	036 Mph	46 F	Dry
02/08/2000 [08:00 PM-08:15 PM]	0038	038 Mph	46 F	Dry
02/08/2000 [08:15 PM-08:30 PM]	0031	036 Mph	46 F	Dry
02/08/2000 [08:30 PM-08:45 PM]	0035	036 Mph	46 F	Dry
02/08/2000 [08:45 PM-09:00 PM]	0026	039 Mph	46 F	Dry
02/08/2000 [09:00 PM-09:15 PM]	0020	037 Mph	46 F	Dry
02/08/2000 [09:15 PM-09:30 PM]	0025	037 Mph	46 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 3327	Begin: 02/07/2000 10:00 PM	End: 02/08/2000 10:00 PM
Street: Dell Range E. of Converse	Lane: WB outside	Hours: 24.00
State: WY	Oper: CY	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 4358
County: Laramie	AADT Factor: 1	AADT Count: 4358

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
02/08/2000 [09:30 PM-09:45 PM]	0009	037 Mph	46 F	Dry
02/08/2000 [09:45 PM-10:00 PM]	0027	037 Mph	46 F	Dry

NU-METRICS Traffic Analyzer Study
Computer Generated Summary Report
Route: Converse S. of Dell Range
Location: Converse S. of Dell Range

A study of vehicle traffic was conducted with HI-STAR unit number 4284. The study was done in the NB outside lane on Converse S. of Dell Range in Cheyenne, WY in Laramie county. The study began on 02/07/2000 at 10:00 PM and concluded on 02/08/2000 at 10:00 PM, lasting a total of 24 hours. Data was recorded in 15 minute time periods. The total recorded volume of traffic showed 5,739 vehicles passed through the location with a peak volume of 202 on 02/08/2000 at 05:15 PM and a minimum volume of 0 on 02/08/2000 at 02:30 AM.

SPEED

Chart 1 lists the values of the speed bins and the total traffic volume for each bin.

Chart 1

< 10	10	15	20	25	30	35	40	45	50	55	60	65	70	> 71
0	31	38	32	72	480	2096	2128	605	161	44	19	14	0	12

Half of the vehicles were traveling at 40 Mph or a lower speed. The average speed for all classified vehicles was 38 Mph with 14.9 percent exceeding the posted speed of 40 Mph. The HI-STAR found 0.79 percent of the total vehicles were traveling in excess of 55 Mph. The mode speed for this traffic study was 40 Mph and the 85th percentile was 40.49 Mph.

CLASSIFICATION

Chart 2 lists the values of the eight Classification bins and the total traffic volume accumulated for each bin.

Chart 2

< 21	21	28	40	50	60	70	> 71
5545	157	21	2	6	1	0	0

Most of the vehicles classified during the study were Passenger Cars. The number of Passenger Cars in the study was 5702 which represents 99.50 percent of the total classifed vehicles. The number of Small Trucks in the study was 21 which represents 0.40 percent of the total classifed vehicles. The number of Trucks/Busses in the study was 2 which represents 0.00 percent of the total classifed vehicles. The number of Tractor Trailers in the study was 7 which represents 0.10 percent of the total classifed vehicles.

HEADWAY

During the peak time period, on 02/08/2000 at 05:15 PM the average headway between the vehicles was 4.43 seconds. The slowest traffic period was on 02/08/2000 at 02:30 AM. During this slowest period, the average headway was 900.0 seconds.

WEATHER

The roadway surface temperature over the period of the study varied between 29 and 52 degrees Fahrenheit. The HI-STAR determined that the roadway surface was Dry 100.00 percent of the time.

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 4284	Begin: 02/07/2000 10:00 PM	End: 02/08/2000 10:00 PM
Street: Converse S. of Dell Range	Lane: NB outside	Hours: 24.00
State: WY	Oper: CY	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 5739
County: Laramie	AADT Factor: 1	AADT Count: 5739

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
02/07/2000 [10:00 PM-10:15 PM]	0025	036 Mph	35 F	Dry
02/07/2000 [10:15 PM-10:30 PM]	0019	039 Mph	35 F	Dry
02/07/2000 [10:30 PM-10:45 PM]	0021	035 Mph	35 F	Dry
02/07/2000 [10:45 PM-11:00 PM]	0018	039 Mph	35 F	Dry
02/07/2000 [11:00 PM-11:15 PM]	0014	040 Mph	35 F	Dry
02/07/2000 [11:15 PM-11:30 PM]	0009	033 Mph	33 F	Dry
02/07/2000 [11:30 PM-11:45 PM]	0006	037 Mph	33 F	Dry
02/07/2000 [11:45 PM-12:00 AM]	0008	036 Mph	33 F	Dry
02/08/2000 [12:00 AM-12:15 AM]	0008	039 Mph	33 F	Dry
02/08/2000 [12:15 AM-12:30 AM]	0006	037 Mph	33 F	Dry
02/08/2000 [12:30 AM-12:45 AM]	0003	040 Mph	33 F	Dry
02/08/2000 [12:45 AM-01:00 AM]	0001	040 Mph	33 F	Dry
02/08/2000 [01:00 AM-01:15 AM]	0007	035 Mph	31 F	Dry
02/08/2000 [01:15 AM-01:30 AM]	0003	037 Mph	31 F	Dry
02/08/2000 [01:30 AM-01:45 AM]	0003	038 Mph	31 F	Dry
02/08/2000 [01:45 AM-02:00 AM]	0002	038 Mph	29 F	Dry
02/08/2000 [02:00 AM-02:15 AM]	0001	030 Mph	29 F	Dry
02/08/2000 [02:15 AM-02:30 AM]	0002	038 Mph	29 F	Dry
02/08/2000 [02:30 AM-02:45 AM]	0000	000 Mph	31 F	Dry
02/08/2000 [02:45 AM-03:00 AM]	0000	000 Mph	31 F	Dry
02/08/2000 [03:00 AM-03:15 AM]	0003	054 Mph	31 F	Dry
02/08/2000 [03:15 AM-03:30 AM]	0004	032 Mph	31 F	Dry
02/08/2000 [03:30 AM-03:45 AM]	0001	040 Mph	31 F	Dry
02/08/2000 [03:45 AM-04:00 AM]	0000	000 Mph	31 F	Dry
02/08/2000 [04:00 AM-04:15 AM]	0003	038 Mph	31 F	Dry
02/08/2000 [04:15 AM-04:30 AM]	0003	033 Mph	31 F	Dry
02/08/2000 [04:30 AM-04:45 AM]	0003	040 Mph	31 F	Dry
02/08/2000 [04:45 AM-05:00 AM]	0002	038 Mph	31 F	Dry
02/08/2000 [05:00 AM-05:15 AM]	0003	035 Mph	31 F	Dry
02/08/2000 [05:15 AM-05:30 AM]	0004	036 Mph	31 F	Dry
02/08/2000 [05:30 AM-05:45 AM]	0007	036 Mph	31 F	Dry
02/08/2000 [05:45 AM-06:00 AM]	0013	035 Mph	31 F	Dry
02/08/2000 [06:00 AM-06:15 AM]	0016	038 Mph	33 F	Dry
02/08/2000 [06:15 AM-06:30 AM]	0011	033 Mph	33 F	Dry
02/08/2000 [06:30 AM-06:45 AM]	0022	037 Mph	35 F	Dry
02/08/2000 [06:45 AM-07:00 AM]	0030	040 Mph	35 F	Dry
02/08/2000 [07:00 AM-07:15 AM]	0046	038 Mph	35 F	Dry
02/08/2000 [07:15 AM-07:30 AM]	0050	036 Mph	35 F	Dry
02/08/2000 [07:30 AM-07:45 AM]	0075	038 Mph	37 F	Dry
02/08/2000 [07:45 AM-08:00 AM]	0059	038 Mph	39 F	Dry
02/08/2000 [08:00 AM-08:15 AM]	0067	039 Mph	39 F	Dry
02/08/2000 [08:15 AM-08:30 AM]	0064	039 Mph	39 F	Dry
02/08/2000 [08:30 AM-08:45 AM]	0070	036 Mph	39 F	Dry
02/08/2000 [08:45 AM-09:00 AM]	0071	037 Mph	41 F	Dry
02/08/2000 [09:00 AM-09:15 AM]	0063	039 Mph	42 F	Dry
02/08/2000 [09:15 AM-09:30 AM]	0070	038 Mph	42 F	Dry
02/08/2000 [09:30 AM-09:45 AM]	0058	036 Mph	42 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 4284	Begin: 02/07/2000 10:00 PM	End: 02/08/2000 10:00 PM
Street: Converse S. of Dell Range	Lane: NB outside	Hours: 24.00
State: WY	Oper: CY	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 5739
County: Laramie	AADT Factor: 1	AADT Count: 5739

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
02/08/2000 [09:45 AM-10:00 AM]	0080	036 Mph	42 F	Dry
02/08/2000 [10:00 AM-10:15 AM]	0062	037 Mph	42 F	Dry
02/08/2000 [10:15 AM-10:30 AM]	0071	038 Mph	44 F	Dry
02/08/2000 [10:30 AM-10:45 AM]	0080	038 Mph	44 F	Dry
02/08/2000 [10:45 AM-11:00 AM]	0089	037 Mph	46 F	Dry
02/08/2000 [11:00 AM-11:15 AM]	0086	039 Mph	48 F	Dry
02/08/2000 [11:15 AM-11:30 AM]	0108	039 Mph	48 F	Dry
02/08/2000 [11:30 AM-11:45 AM]	0117	039 Mph	50 F	Dry
02/08/2000 [11:45 AM-12:00 PM]	0091	039 Mph	50 F	Dry
02/08/2000 [12:00 PM-12:15 PM]	0116	039 Mph	52 F	Dry
02/08/2000 [12:15 PM-12:30 PM]	0147	039 Mph	52 F	Dry
02/08/2000 [12:30 PM-12:45 PM]	0110	039 Mph	52 F	Dry
02/08/2000 [12:45 PM-01:00 PM]	0104	038 Mph	52 F	Dry
02/08/2000 [01:00 PM-01:15 PM]	0092	039 Mph	50 F	Dry
02/08/2000 [01:15 PM-01:30 PM]	0110	038 Mph	50 F	Dry
02/08/2000 [01:30 PM-01:45 PM]	0082	038 Mph	50 F	Dry
02/08/2000 [01:45 PM-02:00 PM]	0101	039 Mph	50 F	Dry
02/08/2000 [02:00 PM-02:15 PM]	0103	039 Mph	50 F	Dry
02/08/2000 [02:15 PM-02:30 PM]	0105	039 Mph	50 F	Dry
02/08/2000 [02:30 PM-02:45 PM]	0084	037 Mph	50 F	Dry
02/08/2000 [02:45 PM-03:00 PM]	0117	039 Mph	50 F	Dry
02/08/2000 [03:00 PM-03:15 PM]	0097	036 Mph	50 F	Dry
02/08/2000 [03:15 PM-03:30 PM]	0122	037 Mph	52 F	Dry
02/08/2000 [03:30 PM-03:45 PM]	0111	038 Mph	52 F	Dry
02/08/2000 [03:45 PM-04:00 PM]	0138	040 Mph	52 F	Dry
02/08/2000 [04:00 PM-04:15 PM]	0137	039 Mph	50 F	Dry
02/08/2000 [04:15 PM-04:30 PM]	0131	037 Mph	50 F	Dry
02/08/2000 [04:30 PM-04:45 PM]	0124	038 Mph	50 F	Dry
02/08/2000 [04:45 PM-05:00 PM]	0145	039 Mph	50 F	Dry
02/08/2000 [05:00 PM-05:15 PM]	0188	038 Mph	48 F	Dry
02/08/2000 [05:15 PM-05:30 PM]	0202	036 Mph	48 F	Dry
02/08/2000 [05:30 PM-05:45 PM]	0150	036 Mph	48 F	Dry
02/08/2000 [05:45 PM-06:00 PM]	0118	038 Mph	48 F	Dry
02/08/2000 [06:00 PM-06:15 PM]	0109	037 Mph	46 F	Dry
02/08/2000 [06:15 PM-06:30 PM]	0114	037 Mph	46 F	Dry
02/08/2000 [06:30 PM-06:45 PM]	0075	037 Mph	46 F	Dry
02/08/2000 [06:45 PM-07:00 PM]	0081	036 Mph	44 F	Dry
02/08/2000 [07:00 PM-07:15 PM]	0091	035 Mph	44 F	Dry
02/08/2000 [07:15 PM-07:30 PM]	0075	038 Mph	44 F	Dry
02/08/2000 [07:30 PM-07:45 PM]	0058	036 Mph	44 F	Dry
02/08/2000 [07:45 PM-08:00 PM]	0054	038 Mph	44 F	Dry
02/08/2000 [08:00 PM-08:15 PM]	0055	039 Mph	44 F	Dry
02/08/2000 [08:15 PM-08:30 PM]	0055	038 Mph	44 F	Dry
02/08/2000 [08:30 PM-08:45 PM]	0058	036 Mph	44 F	Dry
02/08/2000 [08:45 PM-09:00 PM]	0046	037 Mph	44 F	Dry
02/08/2000 [09:00 PM-09:15 PM]	0063	037 Mph	44 F	Dry
02/08/2000 [09:15 PM-09:30 PM]	0058	037 Mph	42 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 4284	Begin: 02/07/2000 10:00 PM	End: 02/08/2000 10:00 PM
Street: Converse S. of Dell Range	Lane: NB outside	Hours: 24.00
State: WY	Oper: CY	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 5739
County: Laramie	AADT Factor: 1	AADT Count: 5739

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
02/08/2000 [09:30 PM-09:45 PM]	0034	037 Mph	42 F	Dry
02/08/2000 [09:45 PM-10:00 PM]	0021	039 Mph	42 F	Dry

NU-METRICS Traffic Analyzer Study
Computer Generated Summary Report
Route: Converse S. of Dell Range
Location: Converse S. of Dell Range

A study of vehicle traffic was conducted with HI-STAR unit number 2474. The study was done in the NB inside lane on Converse S. of Dell Range in Cheyenne, WY in Laramie county. The study began on 02/07/2000 at 10:00 PM and concluded on 02/08/2000 at 10:00 PM, lasting a total of 24 hours. Data was recorded in 15 minute time periods. The total recorded volume of traffic showed 2,954 vehicles passed through the location with a peak volume of 88 on 02/08/2000 at 05:00 PM and a minimum volume of 0 on 02/08/2000 at 01:15 AM.

SPEED
Chart 1 lists the values of the speed bins and the total traffic volume for each bin.

Chart 1

< 10	10	15	20	25	30	35	40	45	50	55	60	65	70	> 71
0	17	17	8	19	65	359	1074	899	354	85	34	11	1	10

Half of the vehicles were traveling at 40 Mph or a lower speed. The average speed for all classified vehicles was 42 Mph with 47.2 percent exceeding the posted speed of 40 Mph. The HI-STAR found 1.90 percent of the total vehicles were traveling in excess of 55 Mph. The mode speed for this traffic study was 40 Mph and the 85th percentile was 46.24 Mph.

CLASSIFICATION
Chart 2 lists the values of the eight Classification bins and the total traffic volume accumulated for each bin.

Chart 2

< 21	21	28	40	50	60	70	> 71
2907	36	4	4	1	1	0	0

Most of the vehicles classified during the study were Passenger Cars. The number of Passenger Cars in the study was 2943 which represents 99.70 percent of the total classifed vehicles. The number of Small Trucks in the study was 4 which represents 0.10 percent of the total classifed vehicles. The number of Trucks/Busses in the study was 4 which represents 0.10 percent of the total classifed vehicles. The number of Tractor Trailers in the study was 2 which represents 0.10 percent of the total classifed vehicles.

HEADWAY
During the peak time period, on 02/08/2000 at 05:00 PM the average headway between the vehicles was 10.11 seconds. The slowest traffic period was on 02/08/2000 at 01:15 AM. During this slowest period, the average headway was 900.0 seconds.

WEATHER
The roadway surface temperature over the period of the study varied between 31 and 54 degrees Fahrenheit. The HI-STAR determined that the roadway surface was Dry 100.00 percent of the time.

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 2474	Begin: 02/07/2000 10:00 PM	End: 02/08/2000 10:00 PM
Street: Converse S. of Dell Range	Lane: NB inside	Hours: 24.00
State: WY	Oper: CY	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 2954
County: Laramie	AADT Factor: 1	AADT Count: 2954

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
02/07/2000 [10:00 PM-10:15 PM]	0004	040 Mph	37 F	Dry
02/07/2000 [10:15 PM-10:30 PM]	0009	043 Mph	37 F	Dry
02/07/2000 [10:30 PM-10:45 PM]	0004	041 Mph	35 F	Dry
02/07/2000 [10:45 PM-11:00 PM]	0008	041 Mph	35 F	Dry
02/07/2000 [11:00 PM-11:15 PM]	0004	034 Mph	35 F	Dry
02/07/2000 [11:15 PM-11:30 PM]	0004	038 Mph	35 F	Dry
02/07/2000 [11:30 PM-11:45 PM]	0005	043 Mph	35 F	Dry
02/07/2000 [11:45 PM-12:00 AM]	0001	040 Mph	33 F	Dry
02/08/2000 [12:00 AM-12:15 AM]	0002	045 Mph	33 F	Dry
02/08/2000 [12:15 AM-12:30 AM]	0004	042 Mph	33 F	Dry
02/08/2000 [12:30 AM-12:45 AM]	0003	040 Mph	33 F	Dry
02/08/2000 [12:45 AM-01:00 AM]	0001	035 Mph	33 F	Dry
02/08/2000 [01:00 AM-01:15 AM]	0003	040 Mph	33 F	Dry
02/08/2000 [01:15 AM-01:30 AM]	0000	000 Mph	31 F	Dry
02/08/2000 [01:30 AM-01:45 AM]	0000	000 Mph	31 F	Dry
02/08/2000 [01:45 AM-02:00 AM]	0000	000 Mph	31 F	Dry
02/08/2000 [02:00 AM-02:15 AM]	0001	040 Mph	31 F	Dry
02/08/2000 [02:15 AM-02:30 AM]	0000	000 Mph	31 F	Dry
02/08/2000 [02:30 AM-02:45 AM]	0002	035 Mph	31 F	Dry
02/08/2000 [02:45 AM-03:00 AM]	0001	045 Mph	31 F	Dry
02/08/2000 [03:00 AM-03:15 AM]	0001	045 Mph	31 F	Dry
02/08/2000 [03:15 AM-03:30 AM]	0000	000 Mph	31 F	Dry
02/08/2000 [03:30 AM-03:45 AM]	0000	000 Mph	33 F	Dry
02/08/2000 [03:45 AM-04:00 AM]	0000	000 Mph	33 F	Dry
02/08/2000 [04:00 AM-04:15 AM]	0000	000 Mph	31 F	Dry
02/08/2000 [04:15 AM-04:30 AM]	0001	045 Mph	33 F	Dry
02/08/2000 [04:30 AM-04:45 AM]	0000	000 Mph	33 F	Dry
02/08/2000 [04:45 AM-05:00 AM]	0002	042 Mph	33 F	Dry
02/08/2000 [05:00 AM-05:15 AM]	0000	000 Mph	33 F	Dry
02/08/2000 [05:15 AM-05:30 AM]	0002	040 Mph	33 F	Dry
02/08/2000 [05:30 AM-05:45 AM]	0002	040 Mph	33 F	Dry
02/08/2000 [05:45 AM-06:00 AM]	0003	052 Mph	33 F	Dry
02/08/2000 [06:00 AM-06:15 AM]	0008	039 Mph	33 F	Dry
02/08/2000 [06:15 AM-06:30 AM]	0006	041 Mph	35 F	Dry
02/08/2000 [06:30 AM-06:45 AM]	0014	042 Mph	35 F	Dry
02/08/2000 [06:45 AM-07:00 AM]	0020	043 Mph	35 F	Dry
02/08/2000 [07:00 AM-07:15 AM]	0016	042 Mph	35 F	Dry
02/08/2000 [07:15 AM-07:30 AM]	0017	044 Mph	37 F	Dry
02/08/2000 [07:30 AM-07:45 AM]	0028	041 Mph	37 F	Dry
02/08/2000 [07:45 AM-08:00 AM]	0033	043 Mph	39 F	Dry
02/08/2000 [08:00 AM-08:15 AM]	0039	043 Mph	39 F	Dry
02/08/2000 [08:15 AM-08:30 AM]	0033	041 Mph	39 F	Dry
02/08/2000 [08:30 AM-08:45 AM]	0032	044 Mph	39 F	Dry
02/08/2000 [08:45 AM-09:00 AM]	0019	045 Mph	41 F	Dry
02/08/2000 [09:00 AM-09:15 AM]	0030	043 Mph	42 F	Dry
02/08/2000 [09:15 AM-09:30 AM]	0030	043 Mph	42 F	Dry
02/08/2000 [09:30 AM-09:45 AM]	0043	041 Mph	42 F	Dry

05/03/2000

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 2474	Begin: 02/07/2000 10:00 PM	End: 02/08/2000 10:00 PM
Street: Converse S. of Dell Range	Lane: NB inside	Hours: 24.00
State: WY	Oper: CY	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 2954
County: Laramie	AADT Factor: 1	AADT Count: 2954

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
02/08/2000 [09:45 AM-10:00 AM]	0042	043 Mph	42 F	Dry
02/08/2000 [10:00 AM-10:15 AM]	0026	044 Mph	44 F	Dry
02/08/2000 [10:15 AM-10:30 AM]	0046	044 Mph	44 F	Dry
02/08/2000 [10:30 AM-10:45 AM]	0044	042 Mph	44 F	Dry
02/08/2000 [10:45 AM-11:00 AM]	0040	042 Mph	46 F	Dry
02/08/2000 [11:00 AM-11:15 AM]	0040	044 Mph	48 F	Dry
02/08/2000 [11:15 AM-11:30 AM]	0054	042 Mph	48 F	Dry
02/08/2000 [11:30 AM-11:45 AM]	0054	042 Mph	50 F	Dry
02/08/2000 [11:45 AM-12:00 PM]	0060	044 Mph	52 F	Dry
02/08/2000 [12:00 PM-12:15 PM]	0064	044 Mph	54 F	Dry
02/08/2000 [12:15 PM-12:30 PM]	0064	044 Mph	52 F	Dry
02/08/2000 [12:30 PM-12:45 PM]	0049	043 Mph	52 F	Dry
02/08/2000 [12:45 PM-01:00 PM]	0061	042 Mph	52 F	Dry
02/08/2000 [01:00 PM-01:15 PM]	0057	042 Mph	50 F	Dry
02/08/2000 [01:15 PM-01:30 PM]	0067	042 Mph	50 F	Dry
02/08/2000 [01:30 PM-01:45 PM]	0066	041 Mph	50 F	Dry
02/08/2000 [01:45 PM-02:00 PM]	0059	042 Mph	52 F	Dry
02/08/2000 [02:00 PM-02:15 PM]	0059	043 Mph	50 F	Dry
02/08/2000 [02:15 PM-02:30 PM]	0056	040 Mph	52 F	Dry
02/08/2000 [02:30 PM-02:45 PM]	0039	043 Mph	50 F	Dry
02/08/2000 [02:45 PM-03:00 PM]	0052	045 Mph	50 F	Dry
02/08/2000 [03:00 PM-03:15 PM]	0060	043 Mph	52 F	Dry
02/08/2000 [03:15 PM-03:30 PM]	0064	043 Mph	52 F	Dry
02/08/2000 [03:30 PM-03:45 PM]	0074	044 Mph	52 F	Dry
02/08/2000 [03:45 PM-04:00 PM]	0076	042 Mph	52 F	Dry
02/08/2000 [04:00 PM-04:15 PM]	0074	042 Mph	52 F	Dry
02/08/2000 [04:15 PM-04:30 PM]	0064	042 Mph	52 F	Dry
02/08/2000 [04:30 PM-04:45 PM]	0071	045 Mph	50 F	Dry
02/08/2000 [04:45 PM-05:00 PM]	0061	042 Mph	50 F	Dry
02/08/2000 [05:00 PM-05:15 PM]	0088	043 Mph	50 F	Dry
02/08/2000 [05:15 PM-05:30 PM]	0086	041 Mph	48 F	Dry
02/08/2000 [05:30 PM-05:45 PM]	0056	042 Mph	48 F	Dry
02/08/2000 [05:45 PM-06:00 PM]	0068	042 Mph	48 F	Dry
02/08/2000 [06:00 PM-06:15 PM]	0054	042 Mph	46 F	Dry
02/08/2000 [06:15 PM-06:30 PM]	0051	043 Mph	46 F	Dry
02/08/2000 [06:30 PM-06:45 PM]	0043	040 Mph	46 F	Dry
02/08/2000 [06:45 PM-07:00 PM]	0049	039 Mph	46 F	Dry
02/08/2000 [07:00 PM-07:15 PM]	0040	040 Mph	44 F	Dry
02/08/2000 [07:15 PM-07:30 PM]	0049	042 Mph	44 F	Dry
02/08/2000 [07:30 PM-07:45 PM]	0046	042 Mph	44 F	Dry
02/08/2000 [07:45 PM-08:00 PM]	0039	040 Mph	44 F	Dry
02/08/2000 [08:00 PM-08:15 PM]	0031	042 Mph	44 F	Dry
02/08/2000 [08:15 PM-08:30 PM]	0030	040 Mph	44 F	Dry
02/08/2000 [08:30 PM-08:45 PM]	0027	040 Mph	44 F	Dry
02/08/2000 [08:45 PM-09:00 PM]	0037	044 Mph	44 F	Dry
02/08/2000 [09:00 PM-09:15 PM]	0028	043 Mph	44 F	Dry
02/08/2000 [09:15 PM-09:30 PM]	0022	041 Mph	44 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 2474	Begin: 02/07/2000 10:00 PM	End: 02/08/2000 10:00 PM
Street: Converse S. of Dell Range	Lane: NB inside	Hours: 24.00
State: WY	Oper: CY	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 2954
County: Laramie	AADT Factor: 1	AADT Count: 2954

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
02/08/2000 [09:30 PM-09:45 PM]	0019	040 Mph	44 F	Dry
02/08/2000 [09:45 PM-10:00 PM]	0013	039 Mph	42 F	Dry

NU-METRICS Traffic Analyzer Study
Computer Generated Summary Report
Route: Dell Range W. of Converse
Location: Dell Range W. of Converse

A study of vehicle traffic was conducted with HI-STAR unit number 1925. The study was done in the EB outside lane on Dell Range W. of Converse in Cheyenne, WY in Laramie county. The study began on 02/07/2000 at 10:00 PM and concluded on 02/08/2000 at 10:00 PM, lasting a total of 24 hours. Data was recorded in 15 minute time periods. The total recorded volume of traffic showed 8,942 vehicles passed through the location with a peak volume of 243 on 02/08/2000 at 05:15 PM and a minimum volume of 0 on 02/08/2000 at 04:30 AM.

SPEED
Chart 1 lists the values of the speed bins and the total traffic volume for each bin.

Chart 1

< 10	10	15	20	25	30	35	40	45	50	55	60	65	70	> 71
0	26	17	64	557	2516	3340	1783	494	101	22	7	8	0	5

Half of the vehicles were traveling at 35 Mph or a lower speed. The average speed for all classified vehicles was 35 Mph with 7.13 percent exceeding the posted speed of 40 Mph. The HI-STAR found 0.22 percent of the total vehicles were traveling in excess of 55 Mph. The mode speed for this traffic study was 35 Mph and the 85th percentile was 38.53 Mph.

CLASSIFICATION
Chart 2 lists the values of the eight Classification bins and the total traffic volume accumulated for each bin.

Chart 2

< 21	21	28	40	50	60	70	> 71
8602	253	39	19	15	8	0	0

Most of the vehicles classified during the study were Passenger Cars. The number of Passenger Cars in the study was 8859 which represents 99.10 percent of the total classifed vehicles. The number of Small Trucks in the study was 39 which represents 0.40 percent of the total classifed vehicles. The number of Trucks/Busses in the study was 19 which represents 0.20 percent of the total classifed vehicles. The number of Tractor Trailers in the study was 23 which represents 0.30 percent of the total classifed vehicles.

HEADWAY
During the peak time period, on 02/08/2000 at 05:15 PM the average headway between the vehicles was 3.69 seconds. The slowest traffic period was on 02/08/2000 at 04:30 AM. During this slowest period, the average headway was 900.0 seconds.

WEATHER
The roadway surface temperature over the period of the study varied between 33 and 52 degrees Fahrenheit. The HI-STAR determined that the roadway surface was Dry 100.00 percent of the time.

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 1925	Begin: 02/07/2000 10:00 PM	End: 02/08/2000 10:00 PM
Street: Dell Range W. of Converse	Lane: EB outside	Hours: 24.00
State: WY	Oper: CY	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 8942
County: Laramie	AADT Factor: 1	AADT Count: 8942

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
02/07/2000 [10:00 PM-10:15 PM]	0050	036 Mph	39 F	Dry
02/07/2000 [10:15 PM-10:30 PM]	0055	036 Mph	39 F	Dry
02/07/2000 [10:30 PM-10:45 PM]	0059	037 Mph	39 F	Dry
02/07/2000 [10:45 PM-11:00 PM]	0027	039 Mph	39 F	Dry
02/07/2000 [11:00 PM-11:15 PM]	0026	039 Mph	37 F	Dry
02/07/2000 [11:15 PM-11:30 PM]	0011	036 Mph	37 F	Dry
02/07/2000 [11:30 PM-11:45 PM]	0015	040 Mph	37 F	Dry
02/07/2000 [11:45 PM-12:00 AM]	0012	039 Mph	37 F	Dry
02/08/2000 [12:00 AM-12:15 AM]	0010	038 Mph	37 F	Dry
02/08/2000 [12:15 AM-12:30 AM]	0004	045 Mph	37 F	Dry
02/08/2000 [12:30 AM-12:45 AM]	0011	035 Mph	35 F	Dry
02/08/2000 [12:45 AM-01:00 AM]	0006	043 Mph	35 F	Dry
02/08/2000 [01:00 AM-01:15 AM]	0008	039 Mph	35 F	Dry
02/08/2000 [01:15 AM-01:30 AM]	0004	041 Mph	35 F	Dry
02/08/2000 [01:30 AM-01:45 AM]	0005	039 Mph	35 F	Dry
02/08/2000 [01:45 AM-02:00 AM]	0002	038 Mph	33 F	Dry
02/08/2000 [02:00 AM-02:15 AM]	0003	035 Mph	33 F	Dry
02/08/2000 [02:15 AM-02:30 AM]	0002	042 Mph	33 F	Dry
02/08/2000 [02:30 AM-02:45 AM]	0004	041 Mph	35 F	Dry
02/08/2000 [02:45 AM-03:00 AM]	0003	040 Mph	35 F	Dry
02/08/2000 [03:00 AM-03:15 AM]	0003	040 Mph	35 F	Dry
02/08/2000 [03:15 AM-03:30 AM]	0002	032 Mph	35 F	Dry
02/08/2000 [03:30 AM-03:45 AM]	0001	040 Mph	35 F	Dry
02/08/2000 [03:45 AM-04:00 AM]	0003	042 Mph	35 F	Dry
02/08/2000 [04:00 AM-04:15 AM]	0002	030 Mph	33 F	Dry
02/08/2000 [04:15 AM-04:30 AM]	0002	040 Mph	35 F	Dry
02/08/2000 [04:30 AM-04:45 AM]	0000	000 Mph	35 F	Dry
02/08/2000 [04:45 AM-05:00 AM]	0005	034 Mph	35 F	Dry
02/08/2000 [05:00 AM-05:15 AM]	0007	041 Mph	35 F	Dry
02/08/2000 [05:15 AM-05:30 AM]	0006	038 Mph	33 F	Dry
02/08/2000 [05:30 AM-05:45 AM]	0010	038 Mph	33 F	Dry
02/08/2000 [05:45 AM-06:00 AM]	0011	040 Mph	35 F	Dry
02/08/2000 [06:00 AM-06:15 AM]	0027	037 Mph	35 F	Dry
02/08/2000 [06:15 AM-06:30 AM]	0012	039 Mph	35 F	Dry
02/08/2000 [06:30 AM-06:45 AM]	0032	039 Mph	35 F	Dry
02/08/2000 [06:45 AM-07:00 AM]	0045	039 Mph	35 F	Dry
02/08/2000 [07:00 AM-07:15 AM]	0064	039 Mph	37 F	Dry
02/08/2000 [07:15 AM-07:30 AM]	0066	039 Mph	37 F	Dry
02/08/2000 [07:30 AM-07:45 AM]	0100	038 Mph	39 F	Dry
02/08/2000 [07:45 AM-08:00 AM]	0123	038 Mph	39 F	Dry
02/08/2000 [08:00 AM-08:15 AM]	0093	040 Mph	39 F	Dry
02/08/2000 [08:15 AM-08:30 AM]	0075	037 Mph	39 F	Dry
02/08/2000 [08:30 AM-08:45 AM]	0074	038 Mph	39 F	Dry
02/08/2000 [08:45 AM-09:00 AM]	0098	036 Mph	41 F	Dry
02/08/2000 [09:00 AM-09:15 AM]	0094	036 Mph	42 F	Dry
02/08/2000 [09:15 AM-09:30 AM]	0094	035 Mph	42 F	Dry
02/08/2000 [09:30 AM-09:45 AM]	0093	036 Mph	42 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 1925	Begin: 02/07/2000 10:00 PM	End: 02/08/2000 10:00 PM
Street: Dell Range W. of Converse	Lane: EB outside	Hours: 24.00
State: WY	Oper: CY	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 8942
County: Laramie	AADT Factor: 1	AADT Count: 8942

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
02/08/2000 [09:45 AM-10:00 AM]	0117	036 Mph	42 F	Dry
02/08/2000 [10:00 AM-10:15 AM]	0107	035 Mph	42 F	Dry
02/08/2000 [10:15 AM-10:30 AM]	0103	035 Mph	42 F	Dry
02/08/2000 [10:30 AM-10:45 AM]	0110	035 Mph	44 F	Dry
02/08/2000 [10:45 AM-11:00 AM]	0121	036 Mph	44 F	Dry
02/08/2000 [11:00 AM-11:15 AM]	0125	034 Mph	46 F	Dry
02/08/2000 [11:15 AM-11:30 AM]	0128	034 Mph	46 F	Dry
02/08/2000 [11:30 AM-11:45 AM]	0144	034 Mph	48 F	Dry
02/08/2000 [11:45 AM-12:00 PM]	0185	034 Mph	50 F	Dry
02/08/2000 [12:00 PM-12:15 PM]	0208	034 Mph	52 F	Dry
02/08/2000 [12:15 PM-12:30 PM]	0180	033 Mph	50 F	Dry
02/08/2000 [12:30 PM-12:45 PM]	0154	034 Mph	50 F	Dry
02/08/2000 [12:45 PM-01:00 PM]	0189	033 Mph	50 F	Dry
02/08/2000 [01:00 PM-01:15 PM]	0185	033 Mph	50 F	Dry
02/08/2000 [01:15 PM-01:30 PM]	0183	034 Mph	50 F	Dry
02/08/2000 [01:30 PM-01:45 PM]	0170	034 Mph	50 F	Dry
02/08/2000 [01:45 PM-02:00 PM]	0152	034 Mph	50 F	Dry
02/08/2000 [02:00 PM-02:15 PM]	0172	034 Mph	50 F	Dry
02/08/2000 [02:15 PM-02:30 PM]	0177	034 Mph	50 F	Dry
02/08/2000 [02:30 PM-02:45 PM]	0145	035 Mph	50 F	Dry
02/08/2000 [02:45 PM-03:00 PM]	0184	033 Mph	50 F	Dry
02/08/2000 [03:00 PM-03:15 PM]	0174	034 Mph	50 F	Dry
02/08/2000 [03:15 PM-03:30 PM]	0181	033 Mph	50 F	Dry
02/08/2000 [03:30 PM-03:45 PM]	0182	033 Mph	52 F	Dry
02/08/2000 [03:45 PM-04:00 PM]	0183	034 Mph	52 F	Dry
02/08/2000 [04:00 PM-04:15 PM]	0164	033 Mph	50 F	Dry
02/08/2000 [04:15 PM-04:30 PM]	0189	034 Mph	50 F	Dry
02/08/2000 [04:30 PM-04:45 PM]	0205	032 Mph	50 F	Dry
02/08/2000 [04:45 PM-05:00 PM]	0198	032 Mph	50 F	Dry
02/08/2000 [05:00 PM-05:15 PM]	0215	033 Mph	50 F	Dry
02/08/2000 [05:15 PM-05:30 PM]	0243	032 Mph	50 F	Dry
02/08/2000 [05:30 PM-05:45 PM]	0177	035 Mph	48 F	Dry
02/08/2000 [05:45 PM-06:00 PM]	0171	034 Mph	48 F	Dry
02/08/2000 [06:00 PM-06:15 PM]	0180	033 Mph	48 F	Dry
02/08/2000 [06:15 PM-06:30 PM]	0168	035 Mph	48 F	Dry
02/08/2000 [06:30 PM-06:45 PM]	0155	035 Mph	48 F	Dry
02/08/2000 [06:45 PM-07:00 PM]	0160	035 Mph	48 F	Dry
02/08/2000 [07:00 PM-07:15 PM]	0155	034 Mph	48 F	Dry
02/08/2000 [07:15 PM-07:30 PM]	0123	034 Mph	46 F	Dry
02/08/2000 [07:30 PM-07:45 PM]	0145	034 Mph	46 F	Dry
02/08/2000 [07:45 PM-08:00 PM]	0119	036 Mph	46 F	Dry
02/08/2000 [08:00 PM-08:15 PM]	0107	035 Mph	46 F	Dry
02/08/2000 [08:15 PM-08:30 PM]	0130	035 Mph	46 F	Dry
02/08/2000 [08:30 PM-08:45 PM]	0103	035 Mph	46 F	Dry
02/08/2000 [08:45 PM-09:00 PM]	0100	035 Mph	46 F	Dry
02/08/2000 [09:00 PM-09:15 PM]	0089	036 Mph	44 F	Dry
02/08/2000 [09:15 PM-09:30 PM]	0102	037 Mph	44 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 1925	Begin: 02/07/2000 10:00 PM	End: 02/08/2000 10:00 PM
Street: Dell Range W. of Converse	Lane: EB outside	Hours: 24.00
State: WY	Oper: CY	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 8942
County: Laramie	AADT Factor: 1	AADT Count: 8942

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
02/08/2000 [09:30 PM-09:45 PM]	0065	037 Mph	44 F	Dry
02/08/2000 [09:45 PM-10:00 PM]	0061	038 Mph	44 F	Dry

NU-METRICS Traffic Analyzer Study
Computer Generated Summary Report
Route: Dell Range W. of Converse
Location: Dell Range W. of Converse

A study of vehicle traffic was conducted with HI-STAR unit number 1355. The study was done in the EB inside lane on Dell Range W. of Converse in Cheyenne, WY in Laramie county. The study began on 02/07/2000 at 10:00 PM and concluded on 02/08/2000 at 10:00 PM, lasting a total of 24 hours. Data was recorded in 15 minute time periods. The total recorded volume of traffic showed 6,619 vehicles passed through the location with a peak volume of 201 on 02/08/2000 at 05:15 PM and a minimum volume of 0 on 02/08/2000 at 02:45 AM.

SPEED
Chart 1 lists the values of the speed bins and the total traffic volume for each bin.

Chart 1

< 10	10	15	20	25	30	35	40	45	50	55	60	65	70	> 71
0	13	34	57	366	1751	2793	1212	291	46	18	13	3	0	12

Half of the vehicles were traveling at 35 Mph or a lower speed. The average speed for all classified vehicles was 34 Mph with 5.80 percent exceeding the posted speed of 40 Mph. The HI-STAR found 0.42 percent of the total vehicles were traveling in excess of 55 Mph. The mode speed for this traffic study was 35 Mph and the 85th percentile was 37.99 Mph.

CLASSIFICATION
Chart 2 lists the values of the eight Classification bins and the total traffic volume accumulated for each bin.

Chart 2

< 21	21	28	40	50	60	70	> 71
6463	88	42	5	8	2	0	1

Most of the vehicles classified during the study were Passenger Cars. The number of Passenger Cars in the study was 6551 which represents 99.10 percent of the total classifed vehicles. The number of Small Trucks in the study was 42 which represents 0.60 percent of the total classifed vehicles. The number of Trucks/Busses in the study was 5 which represents 0.10 percent of the total classifed vehicles. The number of Tractor Trailers in the study was 11 which represents 0.20 percent of the total classifed vehicles.

HEADWAY
During the peak time period, on 02/08/2000 at 05:15 PM the average headway between the vehicles was 4.46 seconds. The slowest traffic period was on 02/08/2000 at 02:45 AM. During this slowest period, the average headway was 900.0 seconds.

WEATHER
The roadway surface temperature over the period of the study varied between 31 and 56 degrees Fahrenheit. The HI-STAR determined that the roadway surface was Dry 100.00 percent of the time.

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 1355	Begin: 02/07/2000 10:00 PM	End: 02/08/2000 10:00 PM
Street: Dell Range W. of Converse	Lane: EB inside	Hours: 24.00
State: WY	Oper: CY	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 6619
County: Laramie	AADT Factor: 1	AADT Count: 6619

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
02/07/2000 [10:00 PM-10:15 PM]	0038	037 Mph	39 F	Dry
02/07/2000 [10:15 PM-10:30 PM]	0045	035 Mph	39 F	Dry
02/07/2000 [10:30 PM-10:45 PM]	0038	036 Mph	39 F	Dry
02/07/2000 [10:45 PM-11:00 PM]	0021	039 Mph	39 F	Dry
02/07/2000 [11:00 PM-11:15 PM]	0022	041 Mph	37 F	Dry
02/07/2000 [11:15 PM-11:30 PM]	0009	042 Mph	37 F	Dry
02/07/2000 [11:30 PM-11:45 PM]	0018	039 Mph	35 F	Dry
02/07/2000 [11:45 PM-12:00 AM]	0012	036 Mph	35 F	Dry
02/08/2000 [12:00 AM-12:15 AM]	0009	038 Mph	35 F	Dry
02/08/2000 [12:15 AM-12:30 AM]	0007	039 Mph	35 F	Dry
02/08/2000 [12:30 AM-12:45 AM]	0007	032 Mph	35 F	Dry
02/08/2000 [12:45 AM-01:00 AM]	0008	040 Mph	35 F	Dry
02/08/2000 [01:00 AM-01:15 AM]	0004	038 Mph	35 F	Dry
02/08/2000 [01:15 AM-01:30 AM]	0008	043 Mph	33 F	Dry
02/08/2000 [01:30 AM-01:45 AM]	0003	035 Mph	33 F	Dry
02/08/2000 [01:45 AM-02:00 AM]	0003	040 Mph	31 F	Dry
02/08/2000 [02:00 AM-02:15 AM]	0003	040 Mph	31 F	Dry
02/08/2000 [02:15 AM-02:30 AM]	0001	030 Mph	31 F	Dry
02/08/2000 [02:30 AM-02:45 AM]	0004	035 Mph	33 F	Dry
02/08/2000 [02:45 AM-03:00 AM]	0000	000 Mph	33 F	Dry
02/08/2000 [03:00 AM-03:15 AM]	0003	033 Mph	33 F	Dry
02/08/2000 [03:15 AM-03:30 AM]	0001	045 Mph	33 F	Dry
02/08/2000 [03:30 AM-03:45 AM]	0001	040 Mph	33 F	Dry
02/08/2000 [03:45 AM-04:00 AM]	0002	035 Mph	33 F	Dry
02/08/2000 [04:00 AM-04:15 AM]	0001	040 Mph	33 F	Dry
02/08/2000 [04:15 AM-04:30 AM]	0000	000 Mph	33 F	Dry
02/08/2000 [04:30 AM-04:45 AM]	0004	038 Mph	33 F	Dry
02/08/2000 [04:45 AM-05:00 AM]	0004	030 Mph	33 F	Dry
02/08/2000 [05:00 AM-05:15 AM]	0001	035 Mph	33 F	Dry
02/08/2000 [05:15 AM-05:30 AM]	0010	036 Mph	33 F	Dry
02/08/2000 [05:30 AM-05:45 AM]	0008	036 Mph	33 F	Dry
02/08/2000 [05:45 AM-06:00 AM]	0009	037 Mph	33 F	Dry
02/08/2000 [06:00 AM-06:15 AM]	0019	035 Mph	35 F	Dry
02/08/2000 [06:15 AM-06:30 AM]	0008	034 Mph	35 F	Dry
02/08/2000 [06:30 AM-06:45 AM]	0024	037 Mph	35 F	Dry
02/08/2000 [06:45 AM-07:00 AM]	0020	038 Mph	35 F	Dry
02/08/2000 [07:00 AM-07:15 AM]	0031	036 Mph	37 F	Dry
02/08/2000 [07:15 AM-07:30 AM]	0033	038 Mph	37 F	Dry
02/08/2000 [07:30 AM-07:45 AM]	0049	038 Mph	39 F	Dry
02/08/2000 [07:45 AM-08:00 AM]	0064	039 Mph	39 F	Dry
02/08/2000 [08:00 AM-08:15 AM]	0078	037 Mph	41 F	Dry
02/08/2000 [08:15 AM-08:30 AM]	0053	037 Mph	42 F	Dry
02/08/2000 [08:30 AM-08:45 AM]	0055	037 Mph	42 F	Dry
02/08/2000 [08:45 AM-09:00 AM]	0054	036 Mph	42 F	Dry
02/08/2000 [09:00 AM-09:15 AM]	0060	037 Mph	42 F	Dry
02/08/2000 [09:15 AM-09:30 AM]	0051	035 Mph	44 F	Dry
02/08/2000 [09:30 AM-09:45 AM]	0057	035 Mph	44 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 1355	Begin: 02/07/2000 10:00 PM	End: 02/08/2000 10:00 PM
Street: Dell Range W. of Converse	Lane: EB inside	Hours: 24.00
State: WY	Oper: CY	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 6619
County: Laramie	AADT Factor: 1	AADT Count: 6619

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
02/08/2000 [09:45 AM-10:00 AM]	0056	036 Mph	44 F	Dry
02/08/2000 [10:00 AM-10:15 AM]	0071	037 Mph	44 F	Dry
02/08/2000 [10:15 AM-10:30 AM]	0060	036 Mph	44 F	Dry
02/08/2000 [10:30 AM-10:45 AM]	0077	034 Mph	46 F	Dry
02/08/2000 [10:45 AM-11:00 AM]	0085	036 Mph	48 F	Dry
02/08/2000 [11:00 AM-11:15 AM]	0082	034 Mph	50 F	Dry
02/08/2000 [11:15 AM-11:30 AM]	0089	036 Mph	50 F	Dry
02/08/2000 [11:30 AM-11:45 AM]	0106	034 Mph	52 F	Dry
02/08/2000 [11:45 AM-12:00 PM]	0138	035 Mph	52 F	Dry
02/08/2000 [12:00 PM-12:15 PM]	0114	036 Mph	56 F	Dry
02/08/2000 [12:15 PM-12:30 PM]	0124	034 Mph	54 F	Dry
02/08/2000 [12:30 PM-12:45 PM]	0114	034 Mph	54 F	Dry
02/08/2000 [12:45 PM-01:00 PM]	0115	034 Mph	52 F	Dry
02/08/2000 [01:00 PM-01:15 PM]	0130	035 Mph	52 F	Dry
02/08/2000 [01:15 PM-01:30 PM]	0119	035 Mph	52 F	Dry
02/08/2000 [01:30 PM-01:45 PM]	0113	033 Mph	52 F	Dry
02/08/2000 [01:45 PM-02:00 PM]	0113	034 Mph	52 F	Dry
02/08/2000 [02:00 PM-02:15 PM]	0108	036 Mph	52 F	Dry
02/08/2000 [02:15 PM-02:30 PM]	0122	033 Mph	52 F	Dry
02/08/2000 [02:30 PM-02:45 PM]	0137	035 Mph	52 F	Dry
02/08/2000 [02:45 PM-03:00 PM]	0103	033 Mph	52 F	Dry
02/08/2000 [03:00 PM-03:15 PM]	0136	033 Mph	52 F	Dry
02/08/2000 [03:15 PM-03:30 PM]	0152	033 Mph	52 F	Dry
02/08/2000 [03:30 PM-03:45 PM]	0176	033 Mph	54 F	Dry
02/08/2000 [03:45 PM-04:00 PM]	0146	035 Mph	54 F	Dry
02/08/2000 [04:00 PM-04:15 PM]	0167	034 Mph	52 F	Dry
02/08/2000 [04:15 PM-04:30 PM]	0145	034 Mph	52 F	Dry
02/08/2000 [04:30 PM-04:45 PM]	0164	033 Mph	52 F	Dry
02/08/2000 [04:45 PM-05:00 PM]	0184	033 Mph	52 F	Dry
02/08/2000 [05:00 PM-05:15 PM]	0176	032 Mph	52 F	Dry
02/08/2000 [05:15 PM-05:30 PM]	0201	031 Mph	52 F	Dry
02/08/2000 [05:30 PM-05:45 PM]	0142	034 Mph	50 F	Dry
02/08/2000 [05:45 PM-06:00 PM]	0151	034 Mph	50 F	Dry
02/08/2000 [06:00 PM-06:15 PM]	0144	033 Mph	50 F	Dry
02/08/2000 [06:15 PM-06:30 PM]	0131	034 Mph	50 F	Dry
02/08/2000 [06:30 PM-06:45 PM]	0138	033 Mph	48 F	Dry
02/08/2000 [06:45 PM-07:00 PM]	0129	034 Mph	48 F	Dry
02/08/2000 [07:00 PM-07:15 PM]	0105	034 Mph	48 F	Dry
02/08/2000 [07:15 PM-07:30 PM]	0111	034 Mph	48 F	Dry
02/08/2000 [07:30 PM-07:45 PM]	0097	034 Mph	48 F	Dry
02/08/2000 [07:45 PM-08:00 PM]	0083	034 Mph	48 F	Dry
02/08/2000 [08:00 PM-08:15 PM]	0099	034 Mph	48 F	Dry
02/08/2000 [08:15 PM-08:30 PM]	0086	035 Mph	48 F	Dry
02/08/2000 [08:30 PM-08:45 PM]	0083	035 Mph	46 F	Dry
02/08/2000 [08:45 PM-09:00 PM]	0071	036 Mph	46 F	Dry
02/08/2000 [09:00 PM-09:15 PM]	0079	036 Mph	46 F	Dry
02/08/2000 [09:15 PM-09:30 PM]	0093	035 Mph	46 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 1355	Begin: 02/07/2000 10:00 PM	End: 02/08/2000 10:00 PM
Street: Dell Range W. of Converse	Lane: EB inside	Hours: 24.00
State: WY	Oper: CY	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 6619
County: Laramie	AADT Factor: 1	AADT Count: 6619

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
02/08/2000 [09:30 PM-09:45 PM]	0054	035 Mph	46 F	Dry
02/08/2000 [09:45 PM-10:00 PM]	0040	037 Mph	46 F	Dry

NU-METRICS Traffic Analyzer Study
Computer Generated Summary Report
Route: Converse N. of Dell Range
Location: Converse N. of Dell Range

A study of vehicle traffic was conducted with HI-STAR unit number 1354. The study was done in the NB lane on Converse N. of Dell Range in Cheyenne, WY in Laramie county. The study began on 02/08/2000 at 01:30 PM and concluded on 02/09/2000 at 01:30 PM, lasting a total of 24 hours. Data was recorded in 15 minute time periods. The total recorded volume of traffic showed 1,981 vehicles passed through the location with a peak volume of 78 on 02/09/2000 at 07:45 AM and a minimum volume of 0 on 02/08/2000 at 10:45 PM.

SPEED
Chart 1 lists the values of the speed bins and the total traffic volume for each bin.

Chart 1

< 10	10	15	20	25	30	35	40	45	50	55	60	65	70	> 71
0	26	7	45	374	858	523	110	21	2	0	2	0	0	0

Half of the vehicles were traveling at 30 Mph or a lower speed. The average speed for all classified vehicles was 31 Mph with 33.4 percent exceeding the posted speed of 30 Mph. The HI-STAR found 0.10 percent of the total vehicles were traveling in excess of 55 Mph. The mode speed for this traffic study was 30 Mph and the 85th percentile was 33.97 Mph.

CLASSIFICATION
Chart 2 lists the values of the eight Classification bins and the total traffic volume accumulated for each bin.

Chart 2

< 21	21	28	40	50	60	70	> 71
1868	69	30	1	0	0	0	0

Most of the vehicles classified during the study were Passenger Cars. The number of Passenger Cars in the study was 1937 which represents 98.40 percent of the total classifed vehicles. The number of Small Trucks in the study was 30 which represents 1.50 percent of the total classifed vehicles. The number of Trucks/Busses in the study was 1 which represents 0.10 percent of the total classifed vehicles. The number of Tractor Trailers in the study was 0 which represents 0.00 percent of the total classifed vehicles.

HEADWAY
During the peak time period, on 02/09/2000 at 07:45 AM the average headway between the vehicles was 11.39 seconds. The slowest traffic period was on 02/08/2000 at 10:45 PM. During this slowest period, the average headway was 900.0 seconds.

WEATHER
The roadway surface temperature over the period of the study varied between 39 and 70 degrees Fahrenheit. The HI-STAR determined that the roadway surface was Dry 100.00 percent of the time.

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 1354	Begin: 02/08/2000 01:30 PM	End: 02/09/2000 01:30 PM
Street: Converse N. of Dell Range	Lane: NB	Hours: 24.00
State: WY	Oper: CY	Period: 15
City: Cheyenne	Posted: 30	Raw Count: 1981
County: Laramie	AADT Factor: 1	AADT Count: 1981

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
02/08/2000 [01:30 PM-01:45 PM]	0031	010 Mph	70 F	Dry
02/08/2000 [01:45 PM-02:00 PM]	0024	030 Mph	62 F	Dry
02/08/2000 [02:00 PM-02:15 PM]	0030	032 Mph	56 F	Dry
02/08/2000 [02:15 PM-02:30 PM]	0022	030 Mph	56 F	Dry
02/08/2000 [02:30 PM-02:45 PM]	0026	030 Mph	54 F	Dry
02/08/2000 [02:45 PM-03:00 PM]	0019	032 Mph	54 F	Dry
02/08/2000 [03:00 PM-03:15 PM]	0022	030 Mph	54 F	Dry
02/08/2000 [03:15 PM-03:30 PM]	0047	031 Mph	56 F	Dry
02/08/2000 [03:30 PM-03:45 PM]	0051	027 Mph	56 F	Dry
02/08/2000 [03:45 PM-04:00 PM]	0038	031 Mph	54 F	Dry
02/08/2000 [04:00 PM-04:15 PM]	0032	032 Mph	52 F	Dry
02/08/2000 [04:15 PM-04:30 PM]	0034	031 Mph	54 F	Dry
02/08/2000 [04:30 PM-04:45 PM]	0027	031 Mph	52 F	Dry
02/08/2000 [04:45 PM-05:00 PM]	0061	031 Mph	52 F	Dry
02/08/2000 [05:00 PM-05:15 PM]	0057	030 Mph	50 F	Dry
02/08/2000 [05:15 PM-05:30 PM]	0030	032 Mph	50 F	Dry
02/08/2000 [05:30 PM-05:45 PM]	0063	030 Mph	48 F	Dry
02/08/2000 [05:45 PM-06:00 PM]	0031	030 Mph	48 F	Dry
02/08/2000 [06:00 PM-06:15 PM]	0031	031 Mph	48 F	Dry
02/08/2000 [06:15 PM-06:30 PM]	0024	033 Mph	46 F	Dry
02/08/2000 [06:30 PM-06:45 PM]	0024	032 Mph	46 F	Dry
02/08/2000 [06:45 PM-07:00 PM]	0027	031 Mph	46 F	Dry
02/08/2000 [07:00 PM-07:15 PM]	0023	029 Mph	46 F	Dry
02/08/2000 [07:15 PM-07:30 PM]	0016	030 Mph	44 F	Dry
02/08/2000 [07:30 PM-07:45 PM]	0011	033 Mph	44 F	Dry
02/08/2000 [07:45 PM-08:00 PM]	0010	031 Mph	44 F	Dry
02/08/2000 [08:00 PM-08:15 PM]	0015	032 Mph	44 F	Dry
02/08/2000 [08:15 PM-08:30 PM]	0012	029 Mph	44 F	Dry
02/08/2000 [08:30 PM-08:45 PM]	0007	031 Mph	44 F	Dry
02/08/2000 [08:45 PM-09:00 PM]	0006	033 Mph	44 F	Dry
02/08/2000 [09:00 PM-09:15 PM]	0009	029 Mph	44 F	Dry
02/08/2000 [09:15 PM-09:30 PM]	0009	033 Mph	44 F	Dry
02/08/2000 [09:30 PM-09:45 PM]	0011	030 Mph	44 F	Dry
02/08/2000 [09:45 PM-10:00 PM]	0011	033 Mph	44 F	Dry
02/08/2000 [10:00 PM-10:15 PM]	0006	030 Mph	42 F	Dry
02/08/2000 [10:15 PM-10:30 PM]	0006	029 Mph	42 F	Dry
02/08/2000 [10:30 PM-10:45 PM]	0002	035 Mph	42 F	Dry
02/08/2000 [10:45 PM-11:00 PM]	0000	000 Mph	42 F	Dry
02/08/2000 [11:00 PM-11:15 PM]	0005	030 Mph	42 F	Dry
02/08/2000 [11:15 PM-11:30 PM]	0002	030 Mph	41 F	Dry
02/08/2000 [11:30 PM-11:45 PM]	0003	032 Mph	41 F	Dry
02/08/2000 [11:45 PM-12:00 AM]	0001	035 Mph	41 F	Dry
02/09/2000 [12:00 AM-12:15 AM]	0002	030 Mph	41 F	Dry
02/09/2000 [12:15 AM-12:30 AM]	0002	022 Mph	41 F	Dry
02/09/2000 [12:30 AM-12:45 AM]	0001	030 Mph	41 F	Dry
02/09/2000 [12:45 AM-01:00 AM]	0001	030 Mph	41 F	Dry
02/09/2000 [01:00 AM-01:15 AM]	0001	030 Mph	41 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 1354	Begin: 02/08/2000 01:30 PM	End: 02/09/2000 01:30 PM
Street: Converse N. of Dell Range	Lane: NB	Hours: 24.00
State: WY	Oper: CY	Period: 15
City: Cheyenne	Posted: 30	Raw Count: 1981
Cour'y: Laramie	AADT Factor: 1	AADT Count: 1981

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
02/09/2000 [01:15 AM-01:30 AM]	0003	030 Mph	41 F	Dry
02/09/2000 [01:30 AM-01:45 AM]	0000	000 Mph	41 F	Dry
02/09/2000 [01:45 AM-02:00 AM]	0002	028 Mph	41 F	Dry
02/09/2000 [02:00 AM-02:15 AM]	0001	030 Mph	41 F	Dry
02/09/2000 [02:15 AM-02:30 AM]	0001	025 Mph	39 F	Dry
02/09/2000 [02:30 AM-02:45 AM]	0001	025 Mph	39 F	Dry
02/09/2000 [02:45 AM-03:00 AM]	0000	000 Mph	39 F	Dry
02/09/2000 [03:00 AM-03:15 AM]	0001	035 Mph	39 F	Dry
02/09/2000 [03:15 AM-03:30 AM]	0000	000 Mph	41 F	Dry
02/09/2000 [03:30 AM-03:45 AM]	0000	000 Mph	41 F	Dry
02/09/2000 [03:45 AM-04:00 AM]	0002	030 Mph	42 F	Dry
02/09/2000 [04:00 AM-04:15 AM]	0002	030 Mph	41 F	Dry
02/09/2000 [04:15 AM-04:30 AM]	0001	030 Mph	41 F	Dry
02/09/2000 [04:30 AM-04:45 AM]	0001	030 Mph	41 F	Dry
02/09/2000 [04:45 AM-05:00 AM]	0001	030 Mph	39 F	Dry
02/09/2000 [05:00 AM-05:15 AM]	0004	031 Mph	39 F	Dry
02/09/2000 [05:15 AM-05:30 AM]	0005	032 Mph	39 F	Dry
02/09/2000 [05:30 AM-05:45 AM]	0005	032 Mph	39 F	Dry
02/09/2000 [05:45 AM-06:00 AM]	0010	034 Mph	39 F	Dry
02/09/2000 [06:00 AM-06:15 AM]	0009	033 Mph	39 F	Dry
02/09/2000 [06:15 AM-06:30 AM]	0007	028 Mph	39 F	Dry
02/09/2000 [06:30 AM-06:45 AM]	0025	029 Mph	39 F	Dry
02/09/2000 [06:45 AM-07:00 AM]	0047	032 Mph	39 F	Dry
02/09/2000 [07:00 AM-07:15 AM]	0038	031 Mph	39 F	Dry
02/09/2000 [07:15 AM-07:30 AM]	0059	031 Mph	39 F	Dry
02/09/2000 [07:30 AM-07:45 AM]	0051	032 Mph	39 F	Dry
02/09/2000 [07:45 AM-08:00 AM]	0078	032 Mph	41 F	Dry
02/09/2000 [08:00 AM-08:15 AM]	0046	031 Mph	41 F	Dry
02/09/2000 [08:15 AM-08:30 AM]	0046	031 Mph	42 F	Dry
02/09/2000 [08:30 AM-08:45 AM]	0055	030 Mph	42 F	Dry
02/09/2000 [08:45 AM-09:00 AM]	0076	030 Mph	42 F	Dry
02/09/2000 [09:00 AM-09:15 AM]	0028	030 Mph	42 F	Dry
02/09/2000 [09:15 AM-09:30 AM]	0028	030 Mph	42 F	Dry
02/09/2000 [09:30 AM-09:45 AM]	0022	029 Mph	44 F	Dry
02/09/2000 [09:45 AM-10:00 AM]	0031	032 Mph	44 F	Dry
02/09/2000 [10:00 AM-10:15 AM]	0021	031 Mph	44 F	Dry
02/09/2000 [10:15 AM-10:30 AM]	0020	028 Mph	44 F	Dry
02/09/2000 [10:30 AM-10:45 AM]	0019	031 Mph	44 F	Dry
02/09/2000 [10:45 AM-11:00 AM]	0021	031 Mph	46 F	Dry
02/09/2000 [11:00 AM-11:15 AM]	0012	030 Mph	48 F	Dry
02/09/2000 [11:15 AM-11:30 AM]	0022	030 Mph	48 F	Dry
02/09/2000 [11:30 AM-11:45 AM]	0032	031 Mph	48 F	Dry
02/09/2000 [11:45 AM-12:00 PM]	0038	031 Mph	50 F	Dry
02/09/2000 [12:00 PM-12:15 PM]	0027	031 Mph	50 F	Dry
02/09/2000 [12:15 PM-12:30 PM]	0039	032 Mph	52 F	Dry
02/09/2000 [12:30 PM-12:45 PM]	0027	032 Mph	52 F	Dry
02/09/2000 [12:45 PM-01:00 PM]	0036	032 Mph	52 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 1354	Begin: 02/08/2000 01:30 PM	End: 02/09/2000 01:30 PM
Street: Converse N. of Dell Range	Lane: NB	Hours: 24.00
State: WY	Oper: CY	Period: 15
City: Cheyenne	Posted: 30	Raw Count: 1981
County: Laramie	AADT Factor: 1	AADT Count: 1981

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
02/09/2000 [01:00 PM-01:15 PM]	0031	030 Mph	54 F	Dry
02/09/2000 [01:15 PM-01:30 PM]	0027	030 Mph	54 F	Dry

NU-METRICS Traffic Analyzer Study
Computer Generated Summary Report
Route: Dell Range W. of College
Location: Dell Range W. of College

A study of vehicle traffic was conducted with HI-STAR unit number 2978. The study was done in the EB inside lane on Dell Range W. of College in Cheyenne, WY in Laramie county. The study began on 02/07/2000 at 10:00 PM and concluded on 02/08/2000 at 10:00 PM, lasting a total of 24 hours. Data was recorded in 15 minute time periods. The total recorded volume of traffic showed 3,279 vehicles passed through the location with a peak volume of 122 on 02/08/2000 at 05:15 PM and a minimum volume of 0 on 02/08/2000 at 12:45 AM.

SPEED
Chart 1 lists the values of the speed bins and the total traffic volume for each bin.

Chart 1

< 10	10	15	20	25	30	35	40	45	50	55	60	65	70	> 71
0	23	31	76	278	1012	1235	423	100	41	28	16	6	1	8

Half of the vehicles were traveling at 35 Mph or a lower speed. The average speed for all classified vehicles was 33 Mph with 6.10 percent exceeding the posted speed of 40 Mph. The HI-STAR found 0.95 percent of the total vehicles were traveling in excess of 55 Mph. The mode speed for this traffic study was 35 Mph and the 85th percentile was 37.05 Mph.

CLASSIFICATION
Chart 2 lists the values of the eight Classification bins and the total traffic volume accumulated for each bin.

Chart 2

< 21	21	28	40	50	60	70	> 71
3210	32	22	6	6	2	0	0

Most of the vehicles classified during the study were Passenger Cars. The number of Passenger Cars in the study was 3242 which represents 98.90 percent of the total classifed vehicles. The number of Small Trucks in the study was 22 which represents 0.70 percent of the total classifed vehicles. The number of Trucks/Busses in the study was 6 which represents 0.20 percent of the total classifed vehicles. The number of Tractor Trailers in the study was 8 which represents 0.20 percent of the total classifed vehicles.

HEADWAY
During the peak time period, on 02/08/2000 at 05:15 PM the average headway between the vehicles was 7.32 seconds. The slowest traffic period was on 02/08/2000 at 12:45 AM. During this slowest period, the average headway was 900.0 seconds.

WEATHER
The roadway surface temperature over the period of the study varied between 31 and 52 degrees Fahrenheit. The HI-STAR determined that the roadway surface was Dry 100.00 percent of the time.

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 2978	Begin: 02/07/2000 10:00 PM	End: 02/08/2000 10:00 PM
Street: Dell Range W. of College	Lane: EB inside	Hours: 24.00
State: WY	Oper: CY	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 3279
County: Laramie	AADT Factor: 1	AADT Count: 3279

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
02/07/2000 [10:00 PM-10:15 PM]	0020	032 Mph	37 F	Dry
02/07/2000 [10:15 PM-10:30 PM]	0016	033 Mph	37 F	Dry
02/07/2000 [10:30 PM-10:45 PM]	0026	033 Mph	37 F	Dry
02/07/2000 [10:45 PM-11:00 PM]	0014	035 Mph	37 F	Dry
02/07/2000 [11:00 PM-11:15 PM]	0018	033 Mph	35 F	Dry
02/07/2000 [11:15 PM-11:30 PM]	0005	035 Mph	35 F	Dry
02/07/2000 [11:30 PM-11:45 PM]	0010	034 Mph	35 F	Dry
02/07/2000 [11:45 PM-12:00 AM]	0008	034 Mph	35 F	Dry
02/08/2000 [12:00 AM-12:15 AM]	0007	031 Mph	33 F	Dry
02/08/2000 [12:15 AM-12:30 AM]	0002	048 Mph	33 F	Dry
02/08/2000 [12:30 AM-12:45 AM]	0005	032 Mph	33 F	Dry
02/08/2000 [12:45 AM-01:00 AM]	0000	000 Mph	33 F	Dry
02/08/2000 [01:00 AM-01:15 AM]	0001	030 Mph	33 F	Dry
02/08/2000 [01:15 AM-01:30 AM]	0003	037 Mph	33 F	Dry
02/08/2000 [01:30 AM-01:45 AM]	0002	035 Mph	31 F	Dry
02/08/2000 [01:45 AM-02:00 AM]	0000	000 Mph	31 F	Dry
02/08/2000 [02:00 AM-02:15 AM]	0001	040 Mph	31 F	Dry
02/08/2000 [02:15 AM-02:30 AM]	0001	030 Mph	31 F	Dry
02/08/2000 [02:30 AM-02:45 AM]	0002	045 Mph	31 F	Dry
02/08/2000 [02:45 AM-03:00 AM]	0000	000 Mph	31 F	Dry
02/08/2000 [03:00 AM-03:15 AM]	0001	035 Mph	31 F	Dry
02/08/2000 [03:15 AM-03:30 AM]	0000	000 Mph	31 F	Dry
02/08/2000 [03:30 AM-03:45 AM]	0000	000 Mph	31 F	Dry
02/08/2000 [03:45 AM-04:00 AM]	0001	025 Mph	31 F	Dry
02/08/2000 [04:00 AM-04:15 AM]	0001	015 Mph	31 F	Dry
02/08/2000 [04:15 AM-04:30 AM]	0000	000 Mph	31 F	Dry
02/08/2000 [04:30 AM-04:45 AM]	0001	035 Mph	31 F	Dry
02/08/2000 [04:45 AM-05:00 AM]	0003	035 Mph	31 F	Dry
02/08/2000 [05:00 AM-05:15 AM]	0001	040 Mph	31 F	Dry
02/08/2000 [05:15 AM-05:30 AM]	0003	035 Mph	31 F	Dry
02/08/2000 [05:30 AM-05:45 AM]	0004	039 Mph	31 F	Dry
02/08/2000 [05:45 AM-06:00 AM]	0004	034 Mph	31 F	Dry
02/08/2000 [06:00 AM-06:15 AM]	0010	034 Mph	31 F	Dry
02/08/2000 [06:15 AM-06:30 AM]	0008	034 Mph	33 F	Dry
02/08/2000 [06:30 AM-06:45 AM]	0010	036 Mph	35 F	Dry
02/08/2000 [06:45 AM-07:00 AM]	0025	030 Mph	35 F	Dry
02/08/2000 [07:00 AM-07:15 AM]	0022	033 Mph	35 F	Dry
02/08/2000 [07:15 AM-07:30 AM]	0023	033 Mph	35 F	Dry
02/08/2000 [07:30 AM-07:45 AM]	0021	036 Mph	37 F	Dry
02/08/2000 [07:45 AM-08:00 AM]	0031	036 Mph	39 F	Dry
02/08/2000 [08:00 AM-08:15 AM]	0033	033 Mph	39 F	Dry
02/08/2000 [08:15 AM-08:30 AM]	0032	036 Mph	39 F	Dry
02/08/2000 [08:30 AM-08:45 AM]	0017	034 Mph	39 F	Dry
02/08/2000 [08:45 AM-09:00 AM]	0025	034 Mph	41 F	Dry
02/08/2000 [09:00 AM-09:15 AM]	0025	031 Mph	42 F	Dry
02/08/2000 [09:15 AM-09:30 AM]	0020	036 Mph	42 F	Dry
02/08/2000 [09:30 AM-09:45 AM]	0028	035 Mph	42 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 2978	Begin: 02/07/2000 10:00 PM	End: 02/08/2000 10:00 PM
Street: Dell Range W. of College	Lane: EB inside	Hours: 24.00
State: WY	Oper: CY	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 3279
County: Laramie	AADT Factor: 1	AADT Count: 3279

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
02/08/2000 [09:45 AM-10:00 AM]	0027	034 Mph	42 F	Dry
02/08/2000 [10:00 AM-10:15 AM]	0029	033 Mph	44 F	Dry
02/08/2000 [10:15 AM-10:30 AM]	0028	033 Mph	44 F	Dry
02/08/2000 [10:30 AM-10:45 AM]	0019	034 Mph	44 F	Dry
02/08/2000 [10:45 AM-11:00 AM]	0035	037 Mph	46 F	Dry
02/08/2000 [11:00 AM-11:15 AM]	0036	032 Mph	48 F	Dry
02/08/2000 [11:15 AM-11:30 AM]	0032	037 Mph	48 F	Dry
02/08/2000 [11:30 AM-11:45 AM]	0061	034 Mph	50 F	Dry
02/08/2000 [11:45 AM-12:00 PM]	0064	034 Mph	52 F	Dry
02/08/2000 [12:00 PM-12:15 PM]	0055	033 Mph	52 F	Dry
02/08/2000 [12:15 PM-12:30 PM]	0066	034 Mph	52 F	Dry
02/08/2000 [12:30 PM-12:45 PM]	0036	037 Mph	52 F	Dry
02/08/2000 [12:45 PM-01:00 PM]	0044	036 Mph	52 F	Dry
02/08/2000 [01:00 PM-01:15 PM]	0051	033 Mph	50 F	Dry
02/08/2000 [01:15 PM-01:30 PM]	0061	033 Mph	50 F	Dry
02/08/2000 [01:30 PM-01:45 PM]	0047	035 Mph	50 F	Dry
02/08/2000 [01:45 PM-02:00 PM]	0046	033 Mph	50 F	Dry
02/08/2000 [02:00 PM-02:15 PM]	0046	035 Mph	50 F	Dry
02/08/2000 [02:15 PM-02:30 PM]	0038	033 Mph	50 F	Dry
02/08/2000 [02:30 PM-02:45 PM]	0041	036 Mph	50 F	Dry
02/08/2000 [02:45 PM-03:00 PM]	0052	034 Mph	50 F	Dry
02/08/2000 [03:00 PM-03:15 PM]	0045	034 Mph	50 F	Dry
02/08/2000 [03:15 PM-03:30 PM]	0077	036 Mph	52 F	Dry
02/08/2000 [03:30 PM-03:45 PM]	0091	032 Mph	52 F	Dry
02/08/2000 [03:45 PM-04:00 PM]	0074	035 Mph	52 F	Dry
02/08/2000 [04:00 PM-04:15 PM]	0072	033 Mph	52 F	Dry
02/08/2000 [04:15 PM-04:30 PM]	0077	033 Mph	50 F	Dry
02/08/2000 [04:30 PM-04:45 PM]	0084	032 Mph	50 F	Dry
02/08/2000 [04:45 PM-05:00 PM]	0087	032 Mph	50 F	Dry
02/08/2000 [05:00 PM-05:15 PM]	0115	031 Mph	50 F	Dry
02/08/2000 [05:15 PM-05:30 PM]	0122	032 Mph	48 F	Dry
02/08/2000 [05:30 PM-05:45 PM]	0109	033 Mph	48 F	Dry
02/08/2000 [05:45 PM-06:00 PM]	0080	033 Mph	48 F	Dry
02/08/2000 [06:00 PM-06:15 PM]	0081	033 Mph	46 F	Dry
02/08/2000 [06:15 PM-06:30 PM]	0077	034 Mph	46 F	Dry
02/08/2000 [06:30 PM-06:45 PM]	0074	034 Mph	46 F	Dry
02/08/2000 [06:45 PM-07:00 PM]	0055	033 Mph	46 F	Dry
02/08/2000 [07:00 PM-07:15 PM]	0061	032 Mph	46 F	Dry
02/08/2000 [07:15 PM-07:30 PM]	0056	034 Mph	44 F	Dry
02/08/2000 [07:30 PM-07:45 PM]	0046	033 Mph	44 F	Dry
02/08/2000 [07:45 PM-08:00 PM]	0031	033 Mph	44 F	Dry
02/08/2000 [08:00 PM-08:15 PM]	0042	033 Mph	44 F	Dry
02/08/2000 [08:15 PM-08:30 PM]	0052	030 Mph	44 F	Dry
02/08/2000 [08:30 PM-08:45 PM]	0048	033 Mph	44 F	Dry
02/08/2000 [08:45 PM-09:00 PM]	0050	033 Mph	44 F	Dry
02/08/2000 [09:00 PM-09:15 PM]	0041	034 Mph	44 F	Dry
02/08/2000 [09:15 PM-09:30 PM]	0062	032 Mph	44 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 2978	Begin: 02/07/2000 10:00 PM	End: 02/08/2000 10:00 PM
Street: Dell Range W. of College	Lane: EB inside	Hours: 24.00
State: WY	Oper: CY	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 3279
County: Laramie	AADT Factor: 1	AADT Count: 3279

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
02/08/2000 [09:30 PM-09:45 PM]	0037	033 Mph	44 F	Dry
02/08/2000 [09:45 PM-10:00 PM]	0029	034 Mph	44 F	Dry

NU-METRICS Traffic Analyzer Study
Computer Generated Summary Report
Route: Dell Range W. of College
Location: Dell Range W. of College

A study of vehicle traffic was conducted with HI-STAR unit number 4282. The study was done in the EB outside lane on Dell Range W. of College in Cheyenne, WY in Laramie county. The study began on 02/07/2000 at 10:00 PM and concluded on 02/08/2000 at 10:00 PM, lasting a total of 24 hours. Data was recorded in 15 minute time periods. The total recorded volume of traffic showed 3,132 vehicles passed through the location with a peak volume of 100 on 02/08/2000 at 05:15 PM and a minimum volume of 1 on 02/08/2000 at 12:15 AM.

SPEED

Chart 1 lists the values o ffic volume for each bin.

< 10	10	15
0	26	22

45	50	55	60	65	70	> 71
216	48	12	3	4	0	7

Half of the vehicles were t eed. The average speed for all classified vehicles was 36 Mph with percent exceeding the posted speed of 40 Mph. The HI-STAR found 0.45 percent of the total vehicles were traveling in excess of 55 Mph. The mode speed for this traffic study was 35 Mph and the 85th percentile was 39.42 Mph.

CLASSIFICATION

Chart 2 lists the values of the eight Classification bins and the total traffic volume accumulated for each bin.

Chart 2

< 21	21	28	40	50	60	70	> 71
2975	76	53	14	6	7	0	1

Most of the vehicles classified during the study were Passenger Cars. The number of Passenger Cars in the study was 3051 which represents 97.40 percent of the total classifed vehicles. The number of Small Trucks in the study was 53 which represents 1.70 percent of the total classifed vehicles. The number of Trucks/Busses in the study was 14 which represents 0.40 percent of the total classifed vehicles. The number of Tractor Trailers in the study was 14 which represents 0.40 percent of the total classifed vehicles.

HEADWAY

During the peak time period, on 02/08/2000 at 05:15 PM the average headway between the vehicles was 8.91 seconds. The slowest traffic period was on 02/08/2000 at 12:15 AM. During this slowest period, the average headway was 450.0 seconds.

WEATHER

The roadway surface temperature over the period of the study varied between 31 and 52 degrees Fahrenheit. The HI-STAR determined that the roadway surface was Dry 100.00 percent of the time.

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 4282	Begin: 02/07/2000 10:00 PM	End: 02/08/2000 10:00 PM
Street: Dell Range W. of College	Lane: EB outside	Hours: 24.00
State: WY	Oper: CY	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 3132
County: Laramie	AADT Factor: 1	AADT Count: 3132

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
02/07/2000 [10:00 PM-10:15 PM]	0014	035 Mph	39 F	Dry
02/07/2000 [10:15 PM-10:30 PM]	0013	037 Mph	39 F	Dry
02/07/2000 [10:30 PM-10:45 PM]	0016	035 Mph	37 F	Dry
02/07/2000 [10:45 PM-11:00 PM]	0015	036 Mph	37 F	Dry
02/07/2000 [11:00 PM-11:15 PM]	0012	038 Mph	37 F	Dry
02/07/2000 [11:15 PM-11:30 PM]	0005	031 Mph	35 F	Dry
02/07/2000 [11:30 PM-11:45 PM]	0015	036 Mph	35 F	Dry
02/07/2000 [11:45 PM-12:00 AM]	0003	040 Mph	35 F	Dry
02/08/2000 [12:00 AM-12:15 AM]	0006	036 Mph	35 F	Dry
02/08/2000 [12:15 AM-12:30 AM]	0001	040 Mph	35 F	Dry
02/08/2000 [12:30 AM-12:45 AM]	0005	036 Mph	35 F	Dry
02/08/2000 [12:45 AM-01:00 AM]	0005	033 Mph	35 F	Dry
02/08/2000 [01:00 AM-01:15 AM]	0002	040 Mph	33 F	Dry
02/08/2000 [01:15 AM-01:30 AM]	0004	034 Mph	33 F	Dry
02/08/2000 [01:30 AM-01:45 AM]	0004	029 Mph	33 F	Dry
02/08/2000 [01:45 AM-02:00 AM]	0003	038 Mph	31 F	Dry
02/08/2000 [02:00 AM-02:15 AM]	0002	038 Mph	31 F	Dry
02/08/2000 [02:15 AM-02:30 AM]	0004	034 Mph	31 F	Dry
02/08/2000 [02:30 AM-02:45 AM]	0003	032 Mph	31 F	Dry
02/08/2000 [02:45 AM-03:00 AM]	0002	038 Mph	31 F	Dry
02/08/2000 [03:00 AM-03:15 AM]	0001	040 Mph	33 F	Dry
02/08/2000 [03:15 AM-03:30 AM]	0003	040 Mph	33 F	Dry
02/08/2000 [03:30 AM-03:45 AM]	0003	037 Mph	33 F	Dry
02/08/2000 [03:45 AM-04:00 AM]	0001	040 Mph	33 F	Dry
02/08/2000 [04:00 AM-04:15 AM]	0001	020 Mph	33 F	Dry
02/08/2000 [04:15 AM-04:30 AM]	0002	030 Mph	31 F	Dry
02/08/2000 [04:30 AM-04:45 AM]	0001	025 Mph	31 F	Dry
02/08/2000 [04:45 AM-05:00 AM]	0011	035 Mph	31 F	Dry
02/08/2000 [05:00 AM-05:15 AM]	0002	038 Mph	31 F	Dry
02/08/2000 [05:15 AM-05:30 AM]	0002	035 Mph	31 F	Dry
02/08/2000 [05:30 AM-05:45 AM]	0009	031 Mph	31 F	Dry
02/08/2000 [05:45 AM-06:00 AM]	0013	040 Mph	31 F	Dry
02/08/2000 [06:00 AM-06:15 AM]	0013	041 Mph	33 F	Dry
02/08/2000 [06:15 AM-06:30 AM]	0021	032 Mph	33 F	Dry
02/08/2000 [06:30 AM-06:45 AM]	0016	036 Mph	35 F	Dry
02/08/2000 [06:45 AM-07:00 AM]	0024	039 Mph	35 F	Dry
02/08/2000 [07:00 AM-07:15 AM]	0021	039 Mph	35 F	Dry
02/08/2000 [07:15 AM-07:30 AM]	0029	036 Mph	35 F	Dry
02/08/2000 [07:30 AM-07:45 AM]	0034	037 Mph	37 F	Dry
02/08/2000 [07:45 AM-08:00 AM]	0051	036 Mph	39 F	Dry
02/08/2000 [08:00 AM-08:15 AM]	0046	036 Mph	39 F	Dry
02/08/2000 [08:15 AM-08:30 AM]	0034	038 Mph	39 F	Dry
02/08/2000 [08:30 AM-08:45 AM]	0035	039 Mph	39 F	Dry
02/08/2000 [08:45 AM-09:00 AM]	0053	035 Mph	39 F	Dry
02/08/2000 [09:00 AM-09:15 AM]	0032	035 Mph	42 F	Dry
02/08/2000 [09:15 AM-09:30 AM]	0040	038 Mph	42 F	Dry
02/08/2000 [09:30 AM-09:45 AM]	0032	035 Mph	42 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 4282	Begin: 02/07/2000 10:00 PM	End: 02/08/2000 10:00 PM
Street: Dell Range W. of College	Lane: EB outside	Hours: 24.00
State: WY	Oper: CY	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 3132
County: Laramie	AADT Factor: 1	AADT Count: 3132

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
02/08/2000 [09:45 AM-10:00 AM]	0039	037 Mph	42 F	Dry
02/08/2000 [10:00 AM-10:15 AM]	0033	036 Mph	42 F	Dry
02/08/2000 [10:15 AM-10:30 AM]	0035	037 Mph	44 F	Dry
02/08/2000 [10:30 AM-10:45 AM]	0037	035 Mph	44 F	Dry
02/08/2000 [10:45 AM-11:00 AM]	0055	037 Mph	44 F	Dry
02/08/2000 [11:00 AM-11:15 AM]	0037	036 Mph	48 F	Dry
02/08/2000 [11:15 AM-11:30 AM]	0034	035 Mph	48 F	Dry
02/08/2000 [11:30 AM-11:45 AM]	0040	035 Mph	50 F	Dry
02/08/2000 [11:45 AM-12:00 PM]	0061	035 Mph	50 F	Dry
02/08/2000 [12:00 PM-12:15 PM]	0064	036 Mph	52 F	Dry
02/08/2000 [12:15 PM-12:30 PM]	0042	036 Mph	52 F	Dry
02/08/2000 [12:30 PM-12:45 PM]	0047	037 Mph	52 F	Dry
02/08/2000 [12:45 PM-01:00 PM]	0070	037 Mph	50 F	Dry
02/08/2000 [01:00 PM-01:15 PM]	0047	036 Mph	50 F	Dry
02/08/2000 [01:15 PM-01:30 PM]	0058	037 Mph	50 F	Dry
02/08/2000 [01:30 PM-01:45 PM]	0053	037 Mph	50 F	Dry
02/08/2000 [01:45 PM-02:00 PM]	0050	033 Mph	50 F	Dry
02/08/2000 [02:00 PM-02:15 PM]	0051	034 Mph	50 F	Dry
02/08/2000 [02:15 PM-02:30 PM]	0064	035 Mph	50 F	Dry
02/08/2000 [02:30 PM-02:45 PM]	0049	038 Mph	50 F	Dry
02/08/2000 [02:45 PM-03:00 PM]	0055	034 Mph	50 F	Dry
02/08/2000 [03:00 PM-03:15 PM]	0051	035 Mph	50 F	Dry
02/08/2000 [03:15 PM-03:30 PM]	0051	035 Mph	50 F	Dry
02/08/2000 [03:30 PM-03:45 PM]	0068	034 Mph	52 F	Dry
02/08/2000 [03:45 PM-04:00 PM]	0057	036 Mph	52 F	Dry
02/08/2000 [04:00 PM-04:15 PM]	0077	036 Mph	50 F	Dry
02/08/2000 [04:15 PM-04:30 PM]	0053	035 Mph	50 F	Dry
02/08/2000 [04:30 PM-04:45 PM]	0059	034 Mph	50 F	Dry
02/08/2000 [04:45 PM-05:00 PM]	0069	037 Mph	50 F	Dry
02/08/2000 [05:00 PM-05:15 PM]	0076	035 Mph	48 F	Dry
02/08/2000 [05:15 PM-05:30 PM]	0100	035 Mph	48 F	Dry
02/08/2000 [05:30 PM-05:45 PM]	0076	035 Mph	48 F	Dry
02/08/2000 [05:45 PM-06:00 PM]	0062	036 Mph	46 F	Dry
02/08/2000 [06:00 PM-06:15 PM]	0053	035 Mph	46 F	Dry
02/08/2000 [06:15 PM-06:30 PM]	0076	035 Mph	46 F	Dry
02/08/2000 [06:30 PM-06:45 PM]	0059	035 Mph	46 F	Dry
02/08/2000 [06:45 PM-07:00 PM]	0058	035 Mph	46 F	Dry
02/08/2000 [07:00 PM-07:15 PM]	0039	036 Mph	44 F	Dry
02/08/2000 [07:15 PM-07:30 PM]	0037	037 Mph	44 F	Dry
02/08/2000 [07:30 PM-07:45 PM]	0039	034 Mph	44 F	Dry
02/08/2000 [07:45 PM-08:00 PM]	0051	038 Mph	44 F	Dry
02/08/2000 [08:00 PM-08:15 PM]	0038	035 Mph	44 F	Dry
02/08/2000 [08:15 PM-08:30 PM]	0034	036 Mph	44 F	Dry
02/08/2000 [08:30 PM-08:45 PM]	0028	036 Mph	44 F	Dry
02/08/2000 [08:45 PM-09:00 PM]	0022	038 Mph	44 F	Dry
02/08/2000 [09:00 PM-09:15 PM]	0030	033 Mph	44 F	Dry
02/08/2000 [09:15 PM-09:30 PM]	0031	036 Mph	44 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 4282	Begin: 02/07/2000 10:00 PM	End: 02/08/2000 10:00 PM
Street: Dell Range W. of College	Lane: EB outside	Hours: 24.00
State: WY	Oper: CY	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 3132
County: Laramie	AADT Factor: 1	AADT Count: 3132

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
02/08/2000 [09:30 PM-09:45 PM]	0032	036 Mph	44 F	Dry
02/08/2000 [09:45 PM-10:00 PM]	0021	035 Mph	44 F	Dry

NU-METRICS Traffic Analyzer Study
Computer Generated Summary Report
Route: Dell Range W. of College
Location: Dell Range W. of College

A study of vehicle traffic was conducted with HI-STAR unit number 603. The study was done in the WB inside lane on Dell Range W. of College in Cheyenne, WY in Laramie county. The study began on 02/07/2000 at 10:00 PM and concluded on 02/08/2000 at 10:00 PM, lasting a total of 24 hours. Data was recorded in 15 minute time periods. The total recorded volume of traffic showed 2,933 vehicles passed through the location with a peak volume of 119 on 02/08/2000 at 07:45 AM and a minimum volume of 0 on 02/08/2000 at 01:45 AM.

SPEED
Chart 1 lists the values of the speed bins and the total traffic volume for each bin.

Chart 1

< 10	10	15	20	25	30	35	40	45	50	55	60	65	70	> 71
0	10	14	16	58	260	925	1094	411	104	22	6	4	1	8

Half of the vehicles were traveling at 40 Mph or a lower speed. The average speed for all classified vehicles was 38 Mph with 18.9 percent exceeding the posted speed of 40 Mph. The HI-STAR found 0.65 percent of the total vehicles were traveling in excess of 55 Mph. The mode speed for this traffic study was 40 Mph and the 85th percentile was 41.91 Mph.

CLASSIFICATION
Chart 2 lists the values of the eight Classification bins and the total traffic volume accumulated for each bin.

Chart 2

< 21	21	28	40	50	60	70	> 71
2712	178	30	11	1	0	0	1

Most of the vehicles classified during the study were Passenger Cars. The number of Passenger Cars in the study was 2890 which represents 98.50 percent of the total classifed vehicles. The number of Small Trucks in the study was 30 which represents 1.00 percent of the total classifed vehicles. The number of Trucks/Busses in the study was 11 which represents 0.40 percent of the total classifed vehicles. The number of Tractor Trailers in the study was 2 which represents 0.10 percent of the total classifed vehicles.

HEADWAY
During the peak time period, on 02/08/2000 at 07:45 AM the average headway between the vehicles was 7.5 seconds. The slowest traffic period was on 02/08/2000 at 01:45 AM. During this slowest period, the average headway was 900.0 seconds.

WEATHER
The roadway surface temperature over the period of the study varied between 29 and 58 degrees Fahrenheit. The HI-STAR determined that the roadway surface was Dry 100.00 percent of the time.

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 603	Begin: 02/07/2000 10:00 PM	End: 02/08/2000 10:00 PM
Street: Dell Range W. of College	Lane: WB inside	Hours: 24.00
State: WY	Oper: CY	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 2933
County: Laramie	AADT Factor: 1	AADT Count: 2933

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
02/07/2000 [10:00 PM-10:15 PM]	0013	038 Mph	33 F	Dry
02/07/2000 [10:15 PM-10:30 PM]	0011	034 Mph	33 F	Dry
02/07/2000 [10:30 PM-10:45 PM]	0011	039 Mph	33 F	Dry
02/07/2000 [10:45 PM-11:00 PM]	0007	040 Mph	33 F	Dry
02/07/2000 [11:00 PM-11:15 PM]	0002	032 Mph	33 F	Dry
02/07/2000 [11:15 PM-11:30 PM]	0004	036 Mph	31 F	Dry
02/07/2000 [11:30 PM-11:45 PM]	0002	038 Mph	31 F	Dry
02/07/2000 [11:45 PM-12:00 AM]	0002	038 Mph	29 F	Dry
02/08/2000 [12:00 AM-12:15 AM]	0003	037 Mph	29 F	Dry
02/08/2000 [12:15 AM-12:30 AM]	0001	035 Mph	29 F	Dry
02/08/2000 [12:30 AM-12:45 AM]	0002	040 Mph	31 F	Dry
02/08/2000 [12:45 AM-01:00 AM]	0003	038 Mph	31 F	Dry
02/08/2000 [01:00 AM-01:15 AM]	0003	035 Mph	29 F	Dry
02/08/2000 [01:15 AM-01:30 AM]	0002	042 Mph	29 F	Dry
02/08/2000 [01:30 AM-01:45 AM]	0001	040 Mph	29 F	Dry
02/08/2000 [01:45 AM-02:00 AM]	0000	000 Mph	29 F	Dry
02/08/2000 [02:00 AM-02:15 AM]	0001	030 Mph	29 F	Dry
02/08/2000 [02:15 AM-02:30 AM]	0001	040 Mph	29 F	Dry
02/08/2000 [02:30 AM-02:45 AM]	0001	040 Mph	29 F	Dry
02/08/2000 [02:45 AM-03:00 AM]	0001	025 Mph	29 F	Dry
02/08/2000 [03:00 AM-03:15 AM]	0001	030 Mph	29 F	Dry
02/08/2000 [03:15 AM-03:30 AM]	0001	071 Mph	29 F	Dry
02/08/2000 [03:30 AM-03:45 AM]	0000	000 Mph	29 F	Dry
02/08/2000 [03:45 AM-04:00 AM]	0002	032 Mph	29 F	Dry
02/08/2000 [04:00 AM-04:15 AM]	0001	050 Mph	29 F	Dry
02/08/2000 [04:15 AM-04:30 AM]	0001	040 Mph	29 F	Dry
02/08/2000 [04:30 AM-04:45 AM]	0005	036 Mph	29 F	Dry
02/08/2000 [04:45 AM-05:00 AM]	0008	035 Mph	29 F	Dry
02/08/2000 [05:00 AM-05:15 AM]	0005	040 Mph	29 F	Dry
02/08/2000 [05:15 AM-05:30 AM]	0008	038 Mph	29 F	Dry
02/08/2000 [05:30 AM-05:45 AM]	0008	033 Mph	29 F	Dry
02/08/2000 [05:45 AM-06:00 AM]	0014	044 Mph	29 F	Dry
02/08/2000 [06:00 AM-06:15 AM]	0009	038 Mph	31 F	Dry
02/08/2000 [06:15 AM-06:30 AM]	0018	037 Mph	33 F	Dry
02/08/2000 [06:30 AM-06:45 AM]	0037	036 Mph	35 F	Dry
02/08/2000 [06:45 AM-07:00 AM]	0068	039 Mph	35 F	Dry
02/08/2000 [07:00 AM-07:15 AM]	0064	039 Mph	35 F	Dry
02/08/2000 [07:15 AM-07:30 AM]	0083	041 Mph	37 F	Dry
02/08/2000 [07:30 AM-07:45 AM]	0087	039 Mph	39 F	Dry
02/08/2000 [07:45 AM-08:00 AM]	0119	040 Mph	42 F	Dry
02/08/2000 [08:00 AM-08:15 AM]	0076	039 Mph	42 F	Dry
02/08/2000 [08:15 AM-08:30 AM]	0057	040 Mph	42 F	Dry
02/08/2000 [08:30 AM-08:45 AM]	0055	039 Mph	42 F	Dry
02/08/2000 [08:45 AM-09:00 AM]	0056	037 Mph	42 F	Dry
02/08/2000 [09:00 AM-09:15 AM]	0027	036 Mph	42 F	Dry
02/08/2000 [09:15 AM-09:30 AM]	0033	037 Mph	44 F	Dry
02/08/2000 [09:30 AM-09:45 AM]	0039	039 Mph	44 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 603	Begin: 02/07/2000 10:00 PM	End: 02/08/2000 10:00 PM
Street: Dell Range W. of College	Lane: WB inside	Hours: 24.00
State: WY	Oper: CY	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 2933
County: Laramie	AADT Factor: 1	AADT Count: 2933

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
02/08/2000 [09:45 AM-10:00 AM]	0049	039 Mph	44 F	Dry
02/08/2000 [10:00 AM-10:15 AM]	0034	038 Mph	44 F	Dry
02/08/2000 [10:15 AM-10:30 AM]	0030	036 Mph	46 F	Dry
02/08/2000 [10:30 AM-10:45 AM]	0031	038 Mph	46 F	Dry
02/08/2000 [10:45 AM-11:00 AM]	0029	037 Mph	48 F	Dry
02/08/2000 [11:00 AM-11:15 AM]	0036	040 Mph	50 F	Dry
02/08/2000 [11:15 AM-11:30 AM]	0044	039 Mph	52 F	Dry
02/08/2000 [11:30 AM-11:45 AM]	0042	039 Mph	52 F	Dry
02/08/2000 [11:45 AM-12:00 PM]	0047	038 Mph	54 F	Dry
02/08/2000 [12:00 PM-12:15 PM]	0052	039 Mph	58 F	Dry
02/08/2000 [12:15 PM-12:30 PM]	0050	039 Mph	56 F	Dry
02/08/2000 [12:30 PM-12:45 PM]	0046	038 Mph	54 F	Dry
02/08/2000 [12:45 PM-01:00 PM]	0049	038 Mph	52 F	Dry
02/08/2000 [01:00 PM-01:15 PM]	0053	038 Mph	52 F	Dry
02/08/2000 [01:15 PM-01:30 PM]	0046	036 Mph	52 F	Dry
02/08/2000 [01:30 PM-01:45 PM]	0048	038 Mph	52 F	Dry
02/08/2000 [01:45 PM-02:00 PM]	0037	040 Mph	52 F	Dry
02/08/2000 [02:00 PM-02:15 PM]	0043	038 Mph	52 F	Dry
02/08/2000 [02:15 PM-02:30 PM]	0046	038 Mph	52 F	Dry
02/08/2000 [02:30 PM-02:45 PM]	0038	038 Mph	52 F	Dry
02/08/2000 [02:45 PM-03:00 PM]	0036	040 Mph	52 F	Dry
02/08/2000 [03:00 PM-03:15 PM]	0043	038 Mph	52 F	Dry
02/08/2000 [03:15 PM-03:30 PM]	0053	038 Mph	52 F	Dry
02/08/2000 [03:30 PM-03:45 PM]	0046	038 Mph	52 F	Dry
02/08/2000 [03:45 PM-04:00 PM]	0057	039 Mph	52 F	Dry
02/08/2000 [04:00 PM-04:15 PM]	0052	039 Mph	52 F	Dry
02/08/2000 [04:15 PM-04:30 PM]	0056	038 Mph	52 F	Dry
02/08/2000 [04:30 PM-04:45 PM]	0060	039 Mph	50 F	Dry
02/08/2000 [04:45 PM-05:00 PM]	0051	039 Mph	50 F	Dry
02/08/2000 [05:00 PM-05:15 PM]	0053	037 Mph	48 F	Dry
02/08/2000 [05:15 PM-05:30 PM]	0065	037 Mph	48 F	Dry
02/08/2000 [05:30 PM-05:45 PM]	0046	036 Mph	46 F	Dry
02/08/2000 [05:45 PM-06:00 PM]	0042	036 Mph	46 F	Dry
02/08/2000 [06:00 PM-06:15 PM]	0048	037 Mph	46 F	Dry
02/08/2000 [06:15 PM-06:30 PM]	0048	038 Mph	44 F	Dry
02/08/2000 [06:30 PM-06:45 PM]	0046	037 Mph	44 F	Dry
02/08/2000 [06:45 PM-07:00 PM]	0046	037 Mph	44 F	Dry
02/08/2000 [07:00 PM-07:15 PM]	0042	038 Mph	44 F	Dry
02/08/2000 [07:15 PM-07:30 PM]	0031	037 Mph	44 F	Dry
02/08/2000 [07:30 PM-07:45 PM]	0027	037 Mph	44 F	Dry
02/08/2000 [07:45 PM-08:00 PM]	0028	034 Mph	44 F	Dry
02/08/2000 [08:00 PM-08:15 PM]	0026	038 Mph	44 F	Dry
02/08/2000 [08:15 PM-08:30 PM]	0031	039 Mph	44 F	Dry
02/08/2000 [08:30 PM-08:45 PM]	0016	038 Mph	44 F	Dry
02/08/2000 [08:45 PM-09:00 PM]	0023	036 Mph	42 F	Dry
02/08/2000 [09:00 PM-09:15 PM]	0020	038 Mph	42 F	Dry
02/08/2000 [09:15 PM-09:30 PM]	0014	040 Mph	42 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 603	Begin: 02/07/2000 10:00 PM	End: 02/08/2000 10:00 PM
Street: Dell Range W. of College	Lane: WB inside	Hours: 24.00
State: WY	Oper: CY	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 2933
County: Laramie	AADT Factor: 1	AADT Count: 2933

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
02/08/2000 [09:30 PM-09:45 PM]	0007	033 Mph	42 F	Dry
02/08/2000 [09:45 PM-10:00 PM]	0017	036 Mph	42 F	Dry

NU-METRICS Traffic Analyzer Study
Computer Generated Summary Report
Route: Dell Range W. of College
Location: Dell Range W. of College

A study of vehicle traffic was conducted with HI-STAR unit number 991. The study was done in the WB outside lane on Dell Range W. of College in Cheyenne, WY in Laramie county. The study began on 02/07/2000 at 10:00 PM and concluded on 02/08/2000 at 10:00 PM, lasting a total of 24 hours. Data was recorded in 15 minute time periods. The total recorded volume of traffic showed 3,472 vehicles passed through the location with a peak volume of 87 on 02/08/2000 at 07:45 AM and a minimum volume of 0 on 02/08/2000 at 04:00 AM.

SPEED
Chart 1 lists the values of the speed bins and the total traffic volume for each bin.

Chart 1

< 10	10	15	20	25	30	35	40	45	50	55	60	65	70	> 71
0	18	31	34	145	528	1291	970	342	73	25	6	7	1	1

Half of the vehicles were traveling at 35 Mph or a lower speed. The average speed for all classified vehicles was 36 Mph with 13.1 percent exceeding the posted speed of 40 Mph. The HI-STAR found 0.43 percent of the total vehicles were traveling in excess of 55 Mph. The mode speed for this traffic study was 35 Mph and the 85th percentile was 40.16 Mph.

CLASSIFICATION
Chart 2 lists the values of the eight Classification bins and the total traffic volume accumulated for each bin.

Chart 2

< 21	21	28	40	50	60	70	> 71
3288	121	47	10	2	2	0	2

Most of the vehicles classified during the study were Passenger Cars. The number of Passenger Cars in the study was 3409 which represents 98.20 percent of the total classifed vehicles. The number of Small Trucks in the study was 47 which represents 1.40 percent of the total classifed vehicles. The number of Trucks/Busses in the study was 10 which represents 0.30 percent of the total classifed vehicles. The number of Tractor Trailers in the study was 6 which represents 0.20 percent of the total classifed vehicles.

HEADWAY
During the peak time period, on 02/08/2000 at 07:45 AM the average headway between the vehicles was 10.23 seconds. The slowest traffic period was on 02/08/2000 at 04:00 AM. During this slowest period, the average headway was 900.0 seconds.

WEATHER
The roadway surface temperature over the period of the study varied between 31 and 54 degrees Fahrenheit. The HI-STAR determined that the roadway surface was Dry 100.00 percent of the time.

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 991	Begin: 02/07/2000 10:00 PM	End: 02/08/2000 10:00 PM
Street: Dell Range W. of College	Lane: WB outside	Hours: 24.00
State: WY	Oper: CY	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 3472
County: Laramie	AADT Factor: 1	AADT Count: 3472

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
02/07/2000 [10:00 PM-10:15 PM]	0022	036 Mph	39 F	Dry
02/07/2000 [10:15 PM-10:30 PM]	0013	041 Mph	39 F	Dry
02/07/2000 [10:30 PM-10:45 PM]	0008	035 Mph	37 F	Dry
02/07/2000 [10:45 PM-11:00 PM]	0009	034 Mph	37 F	Dry
02/07/2000 [11:00 PM-11:15 PM]	0008	036 Mph	37 F	Dry
02/07/2000 [11:15 PM-11:30 PM]	0004	034 Mph	35 F	Dry
02/07/2000 [11:30 PM-11:45 PM]	0004	036 Mph	35 F	Dry
02/07/2000 [11:45 PM-12:00 AM]	0008	037 Mph	35 F	Dry
02/08/2000 [12:00 AM-12:15 AM]	0002	035 Mph	35 F	Dry
02/08/2000 [12:15 AM-12:30 AM]	0006	038 Mph	35 F	Dry
02/08/2000 [12:30 AM-12:45 AM]	0003	042 Mph	35 F	Dry
02/08/2000 [12:45 AM-01:00 AM]	0006	036 Mph	35 F	Dry
02/08/2000 [01:00 AM-01:15 AM]	0002	038 Mph	33 F	Dry
02/08/2000 [01:15 AM-01:30 AM]	0006	029 Mph	33 F	Dry
02/08/2000 [01:30 AM-01:45 AM]	0002	035 Mph	33 F	Dry
02/08/2000 [01:45 AM-02:00 AM]	0002	040 Mph	31 F	Dry
02/08/2000 [02:00 AM-02:15 AM]	0002	040 Mph	31 F	Dry
02/08/2000 [02:15 AM-02:30 AM]	0004	024 Mph	31 F	Dry
02/08/2000 [02:30 AM-02:45 AM]	0002	040 Mph	31 F	Dry
02/08/2000 [02:45 AM-03:00 AM]	0001	035 Mph	33 F	Dry
02/08/2000 [03:00 AM-03:15 AM]	0005	036 Mph	33 F	Dry
02/08/2000 [03:15 AM-03:30 AM]	0004	032 Mph	33 F	Dry
02/08/2000 [03:30 AM-03:45 AM]	0002	030 Mph	33 F	Dry
02/08/2000 [03:45 AM-04:00 AM]	0001	040 Mph	33 F	Dry
02/08/2000 [04:00 AM-04:15 AM]	0000	000 Mph	33 F	Dry
02/08/2000 [04:15 AM-04:30 AM]	0002	045 Mph	33 F	Dry
02/08/2000 [04:30 AM-04:45 AM]	0003	038 Mph	33 F	Dry
02/08/2000 [04:45 AM-05:00 AM]	0008	031 Mph	31 F	Dry
02/08/2000 [05:00 AM-05:15 AM]	0011	038 Mph	31 F	Dry
02/08/2000 [05:15 AM-05:30 AM]	0010	041 Mph	31 F	Dry
02/08/2000 [05:30 AM-05:45 AM]	0007	034 Mph	31 F	Dry
02/08/2000 [05:45 AM-06:00 AM]	0023	034 Mph	33 F	Dry
02/08/2000 [06:00 AM-06:15 AM]	0014	039 Mph	33 F	Dry
02/08/2000 [06:15 AM-06:30 AM]	0015	036 Mph	35 F	Dry
02/08/2000 [06:30 AM-06:45 AM]	0029	035 Mph	35 F	Dry
02/08/2000 [06:45 AM-07:00 AM]	0055	037 Mph	35 F	Dry
02/08/2000 [07:00 AM-07:15 AM]	0057	036 Mph	35 F	Dry
02/08/2000 [07:15 AM-07:30 AM]	0062	038 Mph	37 F	Dry
02/08/2000 [07:30 AM-07:45 AM]	0066	038 Mph	39 F	Dry
02/08/2000 [07:45 AM-08:00 AM]	0087	038 Mph	39 F	Dry
02/08/2000 [08:00 AM-08:15 AM]	0073	039 Mph	41 F	Dry
02/08/2000 [08:15 AM-08:30 AM]	0062	036 Mph	41 F	Dry
02/08/2000 [08:30 AM-08:45 AM]	0047	037 Mph	41 F	Dry
02/08/2000 [08:45 AM-09:00 AM]	0064	037 Mph	42 F	Dry
02/08/2000 [09:00 AM-09:15 AM]	0041	036 Mph	42 F	Dry
02/08/2000 [09:15 AM-09:30 AM]	0037	036 Mph	42 F	Dry
02/08/2000 [09:30 AM-09:45 AM]	0052	038 Mph	44 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

HI-Star ID: 991	Begin: 02/07/2000 10:00 PM	End: 02/08/2000 10:00 PM
Street: Dell Range W. of College	Lane: WB outside	Hours: 24.00
State: WY	Oper: CY	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 3472
County: Laramie	AADT Factor: 1	AADT Count: 3472

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
02/08/2000 [09:45 AM-10:00 AM]	0057	036 Mph	44 F	Dry
02/08/2000 [10:00 AM-10:15 AM]	0039	036 Mph	44 F	Dry
02/08/2000 [10:15 AM-10:30 AM]	0049	032 Mph	44 F	Dry
02/08/2000 [10:30 AM-10:45 AM]	0045	038 Mph	44 F	Dry
02/08/2000 [10:45 AM-11:00 AM]	0044	037 Mph	46 F	Dry
02/08/2000 [11:00 AM-11:15 AM]	0052	039 Mph	48 F	Dry
02/08/2000 [11:15 AM-11:30 AM]	0063	037 Mph	50 F	Dry
02/08/2000 [11:30 AM-11:45 AM]	0047	035 Mph	50 F	Dry
02/08/2000 [11:45 AM-12:00 PM]	0053	038 Mph	52 F	Dry
02/08/2000 [12:00 PM-12:15 PM]	0056	038 Mph	54 F	Dry
02/08/2000 [12:15 PM-12:30 PM]	0053	037 Mph	52 F	Dry
02/08/2000 [12:30 PM-12:45 PM]	0060	035 Mph	52 F	Dry
02/08/2000 [12:45 PM-01:00 PM]	0062	036 Mph	52 F	Dry
02/08/2000 [01:00 PM-01:15 PM]	0061	036 Mph	52 F	Dry
02/08/2000 [01:15 PM-01:30 PM]	0052	036 Mph	50 F	Dry
02/08/2000 [01:30 PM-01:45 PM]	0048	036 Mph	52 F	Dry
02/08/2000 [01:45 PM-02:00 PM]	0043	037 Mph	52 F	Dry
02/08/2000 [02:00 PM-02:15 PM]	0056	038 Mph	52 F	Dry
02/08/2000 [02:15 PM-02:30 PM]	0044	037 Mph	52 F	Dry
02/08/2000 [02:30 PM-02:45 PM]	0050	036 Mph	52 F	Dry
02/08/2000 [02:45 PM-03:00 PM]	0051	037 Mph	52 F	Dry
02/08/2000 [03:00 PM-03:15 PM]	0047	035 Mph	52 F	Dry
02/08/2000 [03:15 PM-03:30 PM]	0069	034 Mph	52 F	Dry
02/08/2000 [03:30 PM-03:45 PM]	0065	037 Mph	52 F	Dry
02/08/2000 [03:45 PM-04:00 PM]	0063	035 Mph	52 F	Dry
02/08/2000 [04:00 PM-04:15 PM]	0060	037 Mph	52 F	Dry
02/08/2000 [04:15 PM-04:30 PM]	0076	036 Mph	52 F	Dry
02/08/2000 [04:30 PM-04:45 PM]	0072	036 Mph	50 F	Dry
02/08/2000 [04:45 PM-05:00 PM]	0067	036 Mph	50 F	Dry
02/08/2000 [05:00 PM-05:15 PM]	0074	036 Mph	50 F	Dry
02/08/2000 [05:15 PM-05:30 PM]	0068	037 Mph	48 F	Dry
02/08/2000 [05:30 PM-05:45 PM]	0080	035 Mph	48 F	Dry
02/08/2000 [05:45 PM-06:00 PM]	0057	038 Mph	48 F	Dry
02/08/2000 [06:00 PM-06:15 PM]	0058	035 Mph	48 F	Dry
02/08/2000 [06:15 PM-06:30 PM]	0062	035 Mph	46 F	Dry
02/08/2000 [06:30 PM-06:45 PM]	0054	037 Mph	46 F	Dry
02/08/2000 [06:45 PM-07:00 PM]	0065	036 Mph	46 F	Dry
02/08/2000 [07:00 PM-07:15 PM]	0054	035 Mph	46 F	Dry
02/08/2000 [07:15 PM-07:30 PM]	0028	032 Mph	46 F	Dry
02/08/2000 [07:30 PM-07:45 PM]	0046	034 Mph	46 F	Dry
02/08/2000 [07:45 PM-08:00 PM]	0040	035 Mph	44 F	Dry
02/08/2000 [08:00 PM-08:15 PM]	0051	036 Mph	44 F	Dry
02/08/2000 [08:15 PM-08:30 PM]	0033	036 Mph	44 F	Dry
02/08/2000 [08:30 PM-08:45 PM]	0026	037 Mph	44 F	Dry
02/08/2000 [08:45 PM-09:00 PM]	0032	037 Mph	44 F	Dry
02/08/2000 [09:00 PM-09:15 PM]	0030	035 Mph	44 F	Dry
02/08/2000 [09:15 PM-09:30 PM]	0020	034 Mph	44 F	Dry

Date/Time/Volume/Average Speed/Temperature Report

Hi-Star ID: 991	Begin: 02/07/2000 10:00 PM	End: 02/08/2000 10:00 PM
Street: Dell Range W. of College	Lane: WB outside	Hours: 24.00
State: WY	Oper: CY	Period: 15
City: Cheyenne	Posted: 40	Raw Count: 3472
County: Laramie	AADT Factor: 1	AADT Count: 3472

Date & Time Range	Count	Avg Speed	Temp	Wet/Dry
02/08/2000 [09:30 PM-09:45 PM]	0021	034 Mph	44 F	Dry
02/08/2000 [09:45 PM-10:00 PM]	0018	038 Mph	44 F	Dry

Intersection Capacity

Lanes, Volumes, Timings

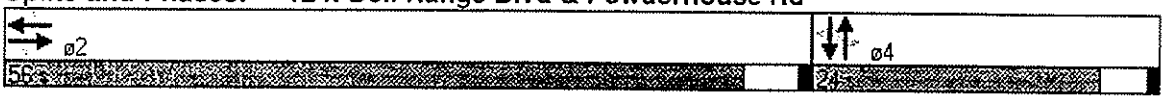
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	11	12	10	11	16	12	12	12	11	13	16
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		0	257		0	0		0	91		0
Storage Lanes	1		0	1		1	0		0	1		1
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1947	3397	0	1652	3421	1794	0	1554	0	1711	1925	1794
Flt Perm.	0.422			0.510				0.925		0.751		
Satd. Flow (perm)	865	3397	0	887	3421	1794	0	1480	0	1352	1925	1794
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13				51		3				4
Volume (vph)	3	345	17	11	506	46	5	1	3	84	5	4
Confl. Peds. (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	3	402	0	12	562	51	0	10	0	93	6	4
Turn Type	Perm			Perm		Free	Perm			Perm		Free
Protected Phases		2			2			4			4	
Permitted Phases	2			2		Free	4			4		Free
Detector Phases	2	2		2	2		4	4		4	4	
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		21.2	21.2		21.2	21.2	
Total Split (s)	56.0	56.0	0.0	56.0	56.0	0.0	24.0	24.0	0.0	24.0	24.0	0.0
Total Split (%)	70%	70%	0%	70%	70%	0%	30%	30%	0%	30%	30%	0%
Yellow Time (s)	3.9	3.9		3.9	3.9		3.2	3.2		3.2	3.2	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Coord	Coord		Coord	Coord		None	None		None	None	
Lane Grp Cap (vph)	687	2699		704	2715	1794		197		177	253	1794
v/s Ratio Prot		0.12			0.16	0.03					0.00	0.00
v/s Ratio Perm	0.00			0.01				0.01		0.07		
Critical LG?					Yes					Yes		
Act Effct Green (s)	63.5	63.5		63.5	63.5	80.0		10.5		10.5	10.5	80.0
Actuated g/C Ratio	0.79	0.79		0.79	0.79	1.00		0.13		0.13	0.13	1.00
v/c Ratio	0.00	0.15		0.02	0.21	0.03		0.05		0.53	0.02	0.00
Uniform Delay, d1	1.7	1.9		1.8	2.0	0.0		21.2		32.4	30.3	0.0
Platoon Factor	1.20	1.14		0.00	0.10	1.00		0.72		0.72	0.72	1.00
Incr. Delay, d2	0.0	0.1		0.0	0.2	0.0		0.1		2.8	0.0	0.0
Webster Delay	2.0	2.2		0.0	0.4	0.0		15.4		26.1	21.9	0.0

Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Webster LOS	A	A		A	A	A		B		C	C	A

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 5 (6%), Referenced to phase 2:EBWB, Start of Yellow
Natural Cycle: 45
Control Type: Actuated-Coordinated
Total Lost Time: 6
Sum of Critical v/s Ratios: 0.23
Intersection v/c Ratio: 0.25
Intersection Webster Signal Delay: 3.3
Intersection LOS: A

Splits and Phases: 124: Dell Range Blvd & Powderhouse Rd



Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	10	12	16	12	16	12	12	16	16
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	209		0	196		0	0		0	0		0
Storage Lanes	1		0	1		1	0		0	0		1
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1711	3390	0	1652	3539	1794	0	1721	0	0	2060	1794
Flt Perm.	0.402			0.492				0.925			0.947	
Satd. Flow (perm)	724	3390	0	855	3539	1794	0	1634	0	0	1999	1794
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19				14		7				1
Volume (vph)	2	367	24	11	546	13	7	0	6	2	2	1
Confl. Peds. (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	2	435	0	12	607	14	0	15	0	0	4	1
Turn Type	Perm			Perm		Free	Perm			Perm		Free
Protected Phases		2			2			4			4	
Permitted Phases	2			2		Free	4			4		Free
Detector Phases	2	2		2	2		4	4		4	4	
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		21.2	21.2		21.2	21.2	
Total Split (s)	57.0	57.0	0.0	57.0	57.0	0.0	23.0	23.0	0.0	23.0	23.0	0.0
Total Split (%)	71%	71%	0%	71%	71%	0%	29%	29%	0%	29%	29%	0%
Yellow Time (s)	3.9	3.9		3.9	3.9		3.2	3.2		3.2	3.2	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Coord	Coord		Coord	Coord		None	None		None	None	
Lane Grp Cap (vph)	634	2973		749	3101	1794		86			97	1794
v/s Ratio Prot		0.13			0.17	0.01						0.00
v/s Ratio Perm	0.00			0.01				0.01			0.00	
Critical LG?					Yes			Yes				
Act Effct Green (s)	70.1	70.1		70.1	70.1	80.0		3.9			3.9	80.0
Actuated g/C Ratio	0.88	0.88		0.88	0.88	1.00		0.05			0.05	1.00
v/c Ratio	0.00	0.15		0.02	0.20	0.01		0.17			0.04	0.00
Uniform Delay, d1	0.5	0.7		0.6	0.7	0.0		19.4			36.2	0.0
Platoon Factor	0.00	0.00		0.00	0.00	1.00		0.62			0.62	1.00
Incr. Delay, d2	0.0	0.1		0.0	0.1	0.0		1.0			0.2	0.0
Webster Delay	0.0	0.1		0.0	0.1	0.0		13.0			22.7	0.0

Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Webster LOS	A	A		A	A	A		B			C	A

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 43 (54%), Referenced to phase 2:EBWB, Start of Yellow
Natural Cycle: 45
Control Type: Actuated-Coordinated
Total Lost Time: 6
Sum of Critical v/s Ratios: 0.18
Intersection v/c Ratio: 0.19
Intersection Webster Signal Delay: 0.4
Intersection LOS: A

Splits and Phases: 125: Dell Range Blvd & Driftwood Dr

Lanes, Volumes, Timings

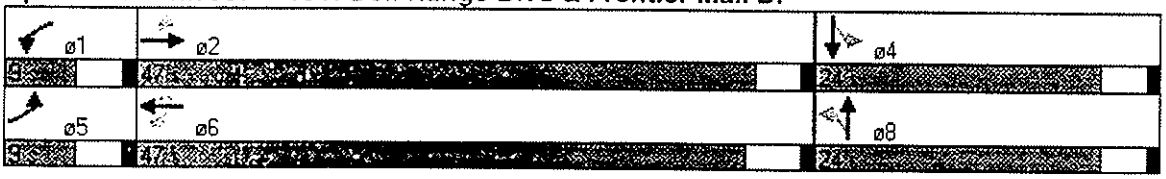
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	11	11	16	11	12	12	10	13	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	251		0	225		0	84		0	134		0
Storage Lanes	1		0	1		1	1		0	1		0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1711	3404	0	1711	3421	1794	1711	1652	0	1652	1688	0
Flt Perm.	0.326			0.461			0.732			0.752		
Satd. Flow (perm)	587	3404	0	830	3421	1794	1318	1652	0	1307	1688	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				59		6			32	
Volume (vph)	33	397	13	14	638	53	3	2	5	14	6	29
Confl. Peds. (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	37	455	0	16	709	59	3	8	0	16	39	0
Turn Type	Pm+Pt			Pm+Pt		Perm	Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phases	5	2		1	6	6	8	8		4	4	
Minimum Initial (s)	2.0	4.0		3.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	20.0		9.0	20.0	20.0	21.2	21.2		21.2	21.2	
Total Split (s)	9.0	47.0	0.0	9.0	47.0	47.0	24.0	24.0	0.0	24.0	24.0	0.0
Total Split (%)	11%	59%	0%	11%	59%	59%	30%	30%	0%	30%	30%	0%
Yellow Time (s)	3.2	3.2		3.2	3.9	3.9	3.2	3.2		3.2	3.2	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?												
Recall Mode	None	Coord		None	Coord	Coord	None	None		None	None	
Lane Grp Cap (vph)	552	2695		684	2626	1391	91	119		90	146	
v/s Ratio Prot	0.00	0.13		0.00	0.21			0.00			0.02	
v/s Ratio Perm	0.05			0.02		0.03	0.00			0.01		
Critical LG?	Yes				Yes						Yes	
Act Effct Green (s)	67.4	63.3		63.6	61.4	61.4	5.5	5.5		5.5	5.5	
Actuated g/C Ratio	0.84	0.79		0.80	0.77	0.77	0.07	0.07		0.07	0.07	
v/c Ratio	0.07	0.17		0.02	0.27	0.04	0.03	0.07		0.18	0.27	
Uniform Delay, d1	0.8	2.0		1.0	2.7	0.0	34.7	8.6		35.1	6.3	
Platoon Factor	1.65	0.78		0.31	0.52	99.00	0.63	0.64		0.63	0.63	
Incr. Delay, d2	0.1	0.1		0.0	0.3	0.1	0.1	0.2		0.9	1.0	
Webster Delay	1.4	1.7		0.3	1.7	0.1	21.8	5.7		22.9	4.9	

Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Webster LOS	A	A		A	A	A	C	A		C	A	

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 42 (53%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 55
Control Type: Actuated-Coordinated
Total Lost Time: 12
Sum of Critical v/s Ratios: 0.23
Intersection v/c Ratio: 0.27
Intersection Webster Signal Delay: 2.0
Intersection LOS: A

Splits and Phases: 151: Dell Range Blvd & Frontier Mall Dr



Lanes, Volumes, Timings

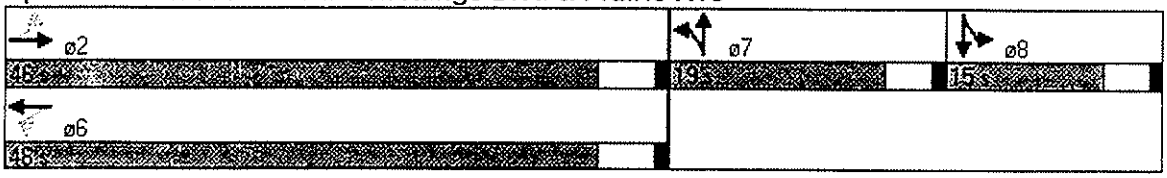
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	8	11	12	16	10	13	12	8	11	13
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	222		0	238		0	73		0	119		115
Storage Lanes	1		0	1		1	1		0	1		1
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1711	3529	0	1711	3539	1794	1652	1717	0	1457	1634	1636
Flt Perm.	0.404			0.404			0.950			0.950	0.716	
Satd. Flow (perm)	727	3529	0	727	3539	1794	1652	1717	0	1457	1225	1636
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				232		23				9
Volume (vph)	20	484	10	26	495	209	28	8	21	193	6	8
Confl. Peds. (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	22	549	0	29	550	232	31	32	0	107	114	9
Turn Type	Perm			Perm		Free	Split			Split		Free
Protected Phases		2			6		7	7		8	8	
Permitted Phases	2			6		Free						Free
Detector Phases	2	2		6	6		7	7		8	8	
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		21.2	21.2		21.2	21.2	
Total Split (s)	46.0	46.0	0.0	46.0	46.0	0.0	19.0	19.0	0.0	15.0	15.0	0.0
Total Split (%)	58%	58%	0%	58%	58%	0%	24%	24%	0%	19%	19%	0%
Yellow Time (s)	3.9	3.9		3.9	3.9		3.2	3.2		3.2	3.2	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?												
Recall Mode	Coord	Coord		Coord	Coord		None	None		None	None	
Lane Grp Cap (vph)	493	2397		493	2402	1794	122	148		197	221	1636
v/s Ratio Prot		0.16			0.16	0.13	0.02	0.02		0.07		0.01
v/s Ratio Perm	0.03			0.04							0.09	
Critical LG?		Yes					Yes			Yes		
Act Effct Green (s)	54.3	54.3		54.3	54.3	80.0	5.9	5.9		10.8	10.8	80.0
Actuated g/C Ratio	0.68	0.68		0.68	0.68	1.00	0.07	0.07		0.14	0.14	1.00
v/c Ratio	0.04	0.23		0.06	0.23	0.13	0.25	0.22		0.54	0.52	0.01
Uniform Delay, d1	4.3	4.8		4.3	4.9	0.0	35.0	9.7		32.3	32.1	0.0
Platoon Factor	1.08	1.06		0.73	0.74	1.00	0.75	0.75		0.97	0.97	1.00
Incr. Delay, d2	0.2	0.2		0.2	0.2	0.1	1.1	0.7		3.0	2.0	0.0
Webster Delay	4.8	5.4		3.3	3.8	0.1	27.2	8.0		34.2	33.1	0.0

Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Webster LOS	A	A		A	A	A	C	A		C	C	A

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 14 (18%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated
Total Lost Time: 9
Sum of Critical v/s Ratios: 0.25
Intersection v/c Ratio: 0.28
Intersection Webster Signal Delay: 8.2
Intersection LOS: A

Splits and Phases: 152: Dell Range Blvd & Prairie Ave



Lanes, Volumes, Timings

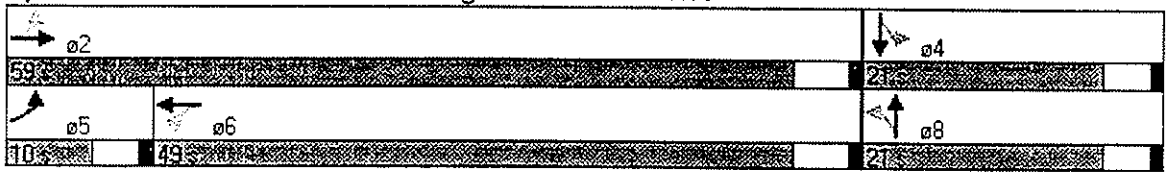
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	12	16	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	138		0	119		0	0		0	200		0
Storage Lanes	1		0	1		0	0		0	1		0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1711	3532	0	1711	3497	0	0	1711	0	1770	3083	0
Flt Perm.	0.129			0.413				0.937		0.790		
Satd. Flow (perm)	232	3532	0	744	3497	0	0	1624	0	1472	3083	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			19			28			61	
Volume (vph)	5	557	9	37	989	86	12	6	25	72	9	55
Confl. Peds. (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	6	629	0	41	1195	0	0	48	0	80	71	0
Turn Type	Pm+Pt			Perm			Perm			Perm		
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phases	5	2		6	6		8	8		4	4	
Minimum Initial (s)	2.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	20.0		20.0	20.0		21.0	21.0		21.0	21.0	
Total Split (s)	10.0	59.0	0.0	49.0	49.0	0.0	21.0	21.0	0.0	21.0	21.0	0.0
Total Split (%)	13%	74%	0%	61%	61%	0%	26%	26%	0%	26%	26%	0%
Yellow Time (s)	3.2	3.9		3.9	3.9		3.2	3.2		3.2	3.2	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?												
Recall Mode	None	Coord		Coord	Coord		None	None		None	None	
Lane Grp Cap (vph)	231	2849		550	2588			218		175	420	
v/s Ratio Prot	0.00	0.18			0.34						0.02	
v/s Ratio Perm	0.02			0.06				0.03		0.05		
Critical LG?		Yes			Yes					Yes		
Act Effct Green (s)	64.5	64.5		59.1	59.1			9.5		9.5	9.5	
Actuated g/C Ratio	0.81	0.81		0.74	0.74			0.12		0.12	0.12	
v/c Ratio	0.03	0.22		0.07	0.46			0.22		0.46	0.17	
Uniform Delay, d1	1.5	1.8		2.9	4.0			13.1		32.8	4.4	
Platoon Factor	0.67	0.80		0.57	0.56			0.77		0.77	0.77	
Incr. Delay, d2	0.0	0.2		0.3	0.6			0.5		1.9	0.2	
Webster Delay	1.0	1.6		1.9	2.9			10.6		27.3	3.6	

Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Webster LOS	A	A		A	A			B		C	A	

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 79 (99%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Total Lost Time: 9
Sum of Critical v/s Ratios: 0.40
Intersection v/c Ratio: 0.45
Intersection Webster Signal Delay: 3.6
Intersection LOS: A

Splits and Phases: 161: Dell Range Blvd & Rue Terre



Lanes, Volumes, Timings

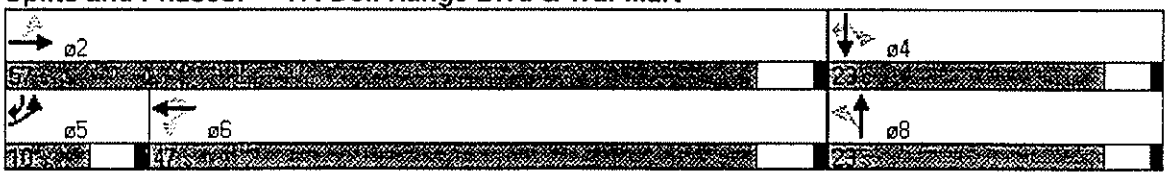
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	97		0	126		200	225		0	0		0
Storage Lanes	1		0	1		1	1		0	0		1
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3507	0	1770	3539	1583	1770	1596	0	0	1785	1583
Flt Perm.	0.208			0.474			0.748				0.866	
Satd. Flow (perm)	387	3507	0	883	3539	1583	1393	1596	0	0	1613	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17				19		20				12
Volume (vph)	14	415	25	19	787	17	14	1	18	12	2	11
Confl. Peds. (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	16	489	0	21	874	19	16	21	0	0	15	12
Turn Type	Pm+Pt			Perm		Perm	Perm			Perm		Pm+Ov
Protected Phases	5	2			6			8			4	5
Permitted Phases	2			6		6	8			4		4
Detector Phases	5	2		6	6	6	8	8		4	4	5
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0	9.0	9.0	9.0		9.0	9.0	9.0
Total Split (s)	10.0	57.0	0.0	47.0	47.0	47.0	23.0	23.0	0.0	23.0	23.0	10.0
Total Split (%)	13%	71%	0%	59%	59%	59%	29%	29%	0%	29%	29%	13%
Yellow Time (s)	3.2	3.9		3.9	3.9	3.9	3.2	3.2		3.2	3.2	3.2
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lead/Lag	Lead			Lag	Lag	Lag						Lead
Lead-Lag Optimize?												
Recall Mode	None	Coord		Coord	Coord	Coord	None	None		None	None	None
Lane Grp Cap (vph)	398	3062		699	2800	1257	73	103			85	222
v/s Ratio Prot	0.00	0.14			0.25			0.01				0.00
v/s Ratio Perm	0.03			0.02		0.01	0.01				0.01	0.00
Critical LG?		Yes			Yes		Yes					
Act Effct Green (s)	69.8	69.8		63.3	63.3	63.3	4.2	4.2			4.2	10.7
Actuated g/C Ratio	0.87	0.87		0.79	0.79	0.79	0.05	0.05			0.05	0.13
v/c Ratio	0.04	0.16		0.03	0.31	0.02	0.22	0.20			0.18	0.05
Uniform Delay, d1	0.6	0.7		1.8	2.3	0.0	36.3	1.7			36.3	0.0
Platoon Factor	0.21	0.00		0.00	0.00	1.00	0.63	0.61			0.62	1.00
Incr. Delay, d2	0.0	0.1		0.1	0.3	0.0	1.5	1.0			1.0	0.1
Webster Delay	0.2	0.1		0.1	0.3	0.0	24.3	2.0			23.7	0.1

Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Webster LOS	A	A		A	A	A	C	A			C	A

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 52 (65%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 40
Control Type: Actuated-Coordinated
Total Lost Time: 9
Sum of Critical v/s Ratios: 0.27
Intersection v/c Ratio: 0.30
Intersection Webster Signal Delay: 0.7
Intersection LOS: A

Splits and Phases: 17: Dell Range Blvd & Wal-Mart



Lanes, Volumes, Timings

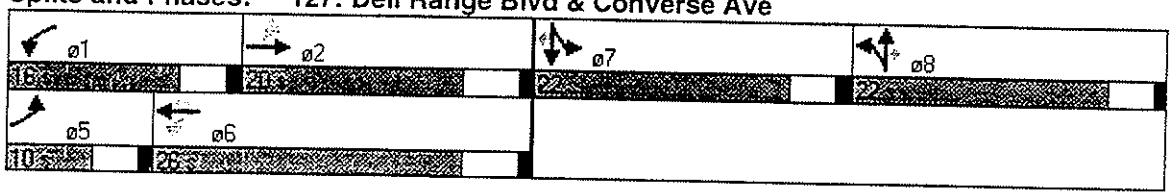
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	146		197	147		92	182		270	99		99
Storage Lanes	1		1	1		1	2		1	1		1
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1681	1717	1583	1770	3539	1583
Flt Perm.	0.235			0.353			0.950	0.734		0.950		
Satd. Flow (perm)	438	3539	1583	658	3539	1583	1681	1299	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			274			51			104			119
Volume (vph)	61	262	247	412	654	59	208	50	94	26	160	107
Confl. Peds. (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	68	291	274	458	727	66	142	145	104	29	178	119
Turn Type	Pm+Pt		Free	Pm+Pt		Perm	Split		Perm	Split		Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases	2		Free	6		6			8			7
Detector Phases	5	2		1	6	6	8	8	8	7	7	7
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	3.0	3.0	3.0	4.0	4.0	4.0
Minimum Split (s)	9.0	20.0		9.0	20.0	20.0	21.2	21.2	21.2	21.2	21.2	21.2
Total Split (s)	10.0	20.0	0.0	16.0	26.0	26.0	22.0	22.0	22.0	22.0	22.0	22.0
Total Split (%)	13%	25%	0%	20%	33%	33%	28%	28%	28%	28%	28%	28%
Yellow Time (s)	3.2	3.9		3.2	3.9	3.9	3.2	3.2	3.2	3.2	3.2	3.2
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?												
Recall Mode	None	Coord		None	Coord	Coord	None	None	None	None	None	None
Lane Grp Cap (vph)	301	1393	1583	571	1712	792	277	283	348	228	456	307
v/s Ratio Prot	0.02	0.08	0.17	0.13	0.21		0.08			0.02	0.05	
v/s Ratio Perm	0.09			0.35		0.04		0.11	0.05			0.05
Critical LG?				Yes			Yes					Yes
Act Effct Green (s)	37.3	31.5	80.0	47.5	38.7	38.7	13.2	13.2	13.2	10.3	10.3	10.3
Actuated g/C Ratio	0.47	0.39	1.00	0.59	0.48	0.48	0.17	0.17	0.17	0.13	0.13	0.13
v/c Ratio	0.23	0.21	0.17	0.80	0.42	0.08	0.51	0.51	0.30	0.13	0.39	0.39
Uniform Delay, d1	7.6	16.0	0.0	8.9	13.4	2.4	30.4	30.4	0.0	30.8	31.9	0.0
Platoon Factor	0.74	0.84	1.00	0.80	0.70	0.50	0.83	0.83	1.00	0.77	0.77	1.00
Incr. Delay, d2	0.4	0.3	0.2	7.8	0.8	0.2	1.6	1.6	0.5	0.3	0.6	0.8
Webster Delay	6.0	13.8	0.2	15.0	10.1	1.4	27.0	27.0	0.5	23.9	25.0	0.8

Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Webster LOS	A	B	A	B	B	A	C	C	A	C	C	A

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 30 (38%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Total Lost Time: 9
Sum of Critical v/s Ratios: 0.61
Intersection v/c Ratio: 0.69
Intersection Webster Signal Delay: 12.2
Intersection LOS: B

Splits and Phases: 127: Dell Range Blvd & Converse Ave



Lanes, Volumes, Timings

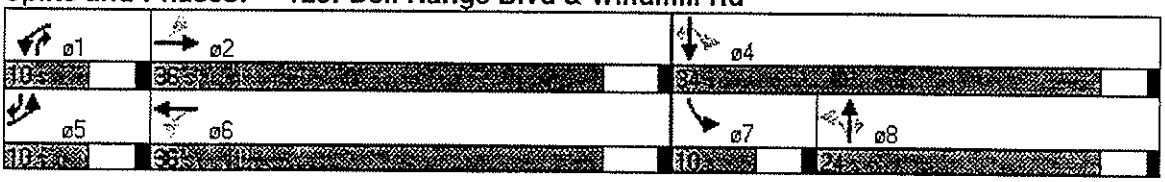
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	12	11	11	15	12	11	13
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	93		0	155		0	190		190	0		200
Storage Lanes	1		0	1		0	1		1	0		1
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3334	0	1711	3408	0	1711	1801	1742	0	1784	1636
Flt Perm.	0.224			0.471			0.659				0.962	
Satd. Flow (perm)	417	3334	0	848	3408	0	1187	1801	1742	0	1732	1636
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		153			4				26			87
Volume (vph)	33	216	138	168	709	20	37	17	23	24	114	129
Confl. Peds. (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	37	393	0	187	810	0	41	19	26	0	154	143
Turn Type	Pm+Pt			Pm+Pt			Perm		Pm+Ov	Pm+Pt		Pm+Ov
Protected Phases	5	2		1	6			8	1	7	4	5
Permitted Phases	2			6			8		8	4		4
Detector Phases	5	2		1	6		8	8	1	7	4	5
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	20.0		9.0	20.0		21.2	21.2	9.0	9.0	21.2	9.0
Total Split (s)	10.0	36.0	0.0	10.0	36.0	0.0	24.0	24.0	10.0	10.0	34.0	10.0
Total Split (%)	13%	45%	0%	13%	45%	0%	30%	30%	13%	13%	43%	13%
Yellow Time (s)	3.2	3.9		3.2	3.9		3.2	3.2	3.2	3.2	3.2	3.2
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag	Lead	Lead		Lead
Lead-Lag Optimize?												
Recall Mode	None	Coord		None	Coord		None	None	None	None	None	None
Lane Grp Cap (vph)	406	2085		663	2072		139	212	440		338	579
v/s Ratio Prot	0.01	0.11		0.02	0.24			0.01	0.01		0.02	0.02
v/s Ratio Perm	0.06			0.17			0.03		0.01		0.07	0.06
Critical LG?					Yes						Yes	Yes
Act Effct Green (s)	55.5	48.6		55.5	48.6		9.4	9.4	19.3		15.5	25.4
Actuated g/C Ratio	0.69	0.61		0.69	0.61		0.12	0.12	0.24		0.19	0.32
v/c Ratio	0.09	0.19		0.28	0.39		0.29	0.09	0.06		0.46	0.25
Uniform Delay, d1	3.0	4.1		3.3	8.0		32.2	31.5	0.0		28.5	7.6
Platoon Factor	0.29	1.31		0.94	0.81		0.70	0.70	1.00		0.58	0.80
Incr. Delay, d2	0.1	0.2		0.2	0.5		1.2	0.2	0.1		1.0	0.2
Webster Delay	1.0	5.5		3.3	7.0		23.7	22.2	0.1		17.4	6.3

Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Webster LOS	A	A		A	A		C	C	A		B	A

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 8 (10%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Total Lost Time: 6
Sum of Critical v/s Ratios: 0.35
Intersection v/c Ratio: 0.38
Intersection Webster Signal Delay: 7.5
Intersection LOS: A

Splits and Phases: 128: Dell Range Blvd & Windmill Rd



Lanes, Volumes, Timings

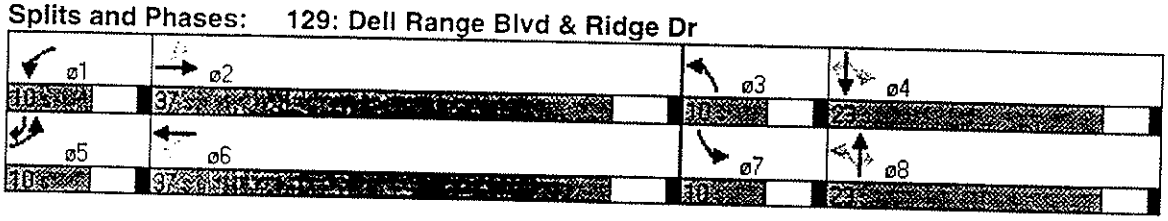
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	16	11	13	12	11	12	16	12	11	13
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	135		0	109		0	98		98	114		114
Storage Lanes	1		1	1		0	1		1	1		1
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1652	3539	1794	1711	3621	0	1711	1863	1794	1770	1801	1636
Flt Perm.	0.260			0.622			0.604			0.714		
Satd. Flow (perm)	452	3539	1794	1120	3621	0	1088	1863	1794	1330	1801	1636
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			56		12				19			86
Volume (vph)	24	186	50	23	628	47	84	59	17	62	123	77
Confl. Peds. (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	27	207	56	26	750	0	93	66	19	69	137	86
Turn Type	Pm+Pt		Free	Pm+Pt			Pm+Pt		Perm	Pm+Pt		Pm+Ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases	2		Free	6			8		8	4		4
Detector Phases	5	2		1	6		3	8	8	7	4	5
Minimum Initial (s)	2.0	4.0		3.0	4.0		3.0	4.0	4.0	3.0	4.0	2.0
Minimum Split (s)	9.0	20.0		9.0	20.0		9.0	21.2	21.2	9.0	21.2	9.0
Total Split (s)	10.0	37.0	0.0	10.0	37.0	0.0	10.0	23.0	23.0	10.0	23.0	10.0
Total Split (%)	13%	46%	0%	13%	46%	0%	13%	29%	29%	13%	29%	13%
Yellow Time (s)	3.2	3.9		3.2	3.9		3.2	3.2	3.2	3.2	3.2	3.2
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Recall Mode	None	Coord		None	Coord		None	None	None	None	None	None
Lane Grp Cap (vph)	390	2119	1794	713	2069		271	252	259	308	243	466
v/s Ratio Prot	0.01	0.06	0.03	0.00	0.21		0.02	0.04		0.02	0.08	0.01
v/s Ratio Perm	0.04			0.02			0.05		0.01	0.03		0.03
Critical LG?	Yes				Yes		Yes				Yes	Yes
Act Effct Green (s)	53.7	47.9	80.0	49.1	45.6		16.6	10.8	10.8	16.6	10.8	19.6
Actuated g/C Ratio	0.67	0.60	1.00	0.61	0.57		0.21	0.14	0.14	0.21	0.14	0.25
v/c Ratio	0.07	0.10	0.03	0.04	0.36		0.34	0.26	0.07	0.22	0.56	0.18
Uniform Delay, d1	4.1	6.8	0.0	4.3	9.1		24.1	31.0	0.0	23.8	32.4	0.0
Platoon Factor	0.45	0.29	1.00	1.21	1.20		0.69	0.75	1.00	0.69	0.75	1.00
Incr. Delay, d2	0.1	0.1	0.0	0.0	0.5		0.8	0.6	0.1	0.4	3.0	0.2
Webster Delay	1.9	2.1	0.0	5.3	11.4		17.3	23.9	0.1	16.7	27.3	0.2

Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Webster LOS	A	A	A	A	B		B	C	A	B	C	A

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 43 (54%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Total Lost Time: 12
Sum of Critical v/s Ratios: 0.33
Intersection v/c Ratio: 0.39
Intersection Webster Signal Delay: 11.3
Intersection LOS: B

Splits and Phases: 129: Dell Range Blvd & Ridge Dr



Lanes, Volumes, Timings

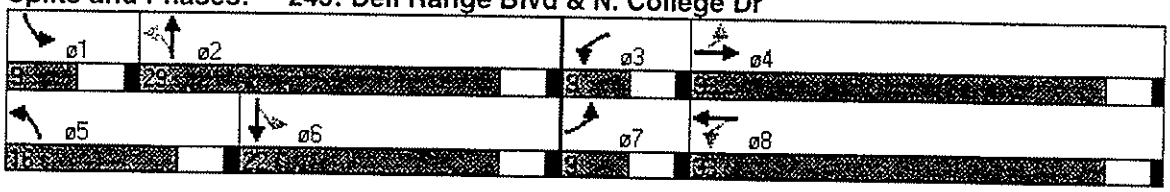
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	14	13	12	12	12	12	12	11	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	100		0	97		0	143		0	96		0
Storage Lanes	1		1	1		0	1		0	1		0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	50	50	50	50	50		50	50		50	50	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3421	1689	1829	3497	0	1770	3408	0	1711	3359	0
Flt Perm.	0.473			0.694			0.271			0.654		
Satd. Flow (perm)	881	3421	1689	1336	3497	0	505	3408	0	1178	3359	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			184		13			38			110	
Volume (vph)	32	83	166	113	311	27	215	105	34	35	241	126
Confl. Peds. (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	36	92	184	126	376	0	239	155	0	39	408	0
Turn Type	Pm+Pt		Free	Pm+Pt			Pm+Pt			Pm+Pt		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		Free	8			2			6		
Detector Phases	7	4		3	8		5	2		1	6	
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	19.2		9.0	19.2		9.0	20.2		9.0	20.2	
Total Split (s)	9.0	33.0	0.0	9.0	33.0	0.0	16.0	29.0	0.0	9.0	22.0	0.0
Total Split (%)	11%	41%	0%	11%	41%	0%	20%	36%	0%	11%	28%	0%
Yellow Time (s)	3.2	3.2		3.2	3.2		3.2	3.2		3.2	3.2	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	Coord		None	Coord		None	None		None	None	
Lane Grp Cap (vph)	479	1510	1689	719	1590		391	1032		312	727	
v/s Ratio Prot	0.00	0.03	0.11	0.01	0.11		0.10	0.04		0.01	0.11	
v/s Ratio Perm	0.03			0.08			0.14			0.02		
Critical LG?			Yes	Yes	Yes		Yes					
Act Effct Green (s)	39.4	35.3	80.0	41.2	36.2		30.7	23.6		19.3	15.2	
Actuated g/C Ratio	0.49	0.44	1.00	0.52	0.45		0.38	0.30		0.24	0.19	
v/c Ratio	0.08	0.06	0.11	0.18	0.24		0.61	0.15		0.12	0.56	
Uniform Delay, d1	8.7	12.8	0.0	9.1	12.9		17.5	15.5		16.4	21.1	
Platoon Factor	1.03	1.02	99.00	0.94	1.03		0.83	0.92		0.83	0.89	
Incr. Delay, d2	0.1	0.1	0.1	0.1	0.4		2.8	0.1		0.2	1.0	
Webster Delay	9.0	13.1	0.1	8.6	13.7		17.4	14.3		13.8	19.7	

Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Webster LOS	A	B	A	A	B		B	B		B	B	

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Yellow, Master Intersection
Natural Cycle: 60
Control Type: Actuated-Coordinated
Total Lost Time: 6
Sum of Critical v/s Ratios: 0.35
Intersection v/c Ratio: 0.38
Intersection Webster Signal Delay: 13.7
Intersection LOS: B

Splits and Phases: 245: Dell Range Blvd & N. College Dr



Lanes, Volumes, Timings

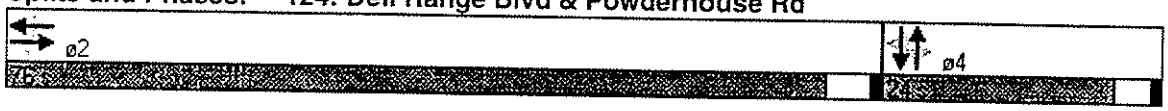
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	11	12	10	11	16	12	12	12	11	13	16
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		0	257		0	0		0	91		0
Storage Lanes	1		0	1		1	0		0	1		1
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1947	3418	0	1652	3421	1794	0	1544	0	1711	1925	1794
Flt Perm.	0.319			0.251				0.927		0.762		
Satd. Flow (perm)	654	3418	0	436	3421	1794	0	1457	0	1372	1925	1794
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				91		19				29
Volume (vph)	16	902	8	32	732	88	15	9	17	133	2	26
Confl. Peds. (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	18	1011	0	36	813	98	0	46	0	148	2	29
Turn Type	Perm			Perm		Free	Perm			Perm		Free
Protected Phases		2			2			4			4	
Permitted Phases	2			2		Free	4			4		Free
Detector Phases	2	2		2	2		4	4		4	4	
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	19.9	19.9		19.9	19.9		19.2	19.2		19.2	19.2	
Total Split (s)	76.0	76.0	0.0	76.0	76.0	0.0	24.0	24.0	0.0	24.0	24.0	0.0
Total Split (%)	76%	76%	0%	76%	76%	0%	24%	24%	0%	24%	24%	0%
Yellow Time (s)	3.9	3.9		3.9	3.9		3.2	3.2		3.2	3.2	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Coord	Coord		Coord	Coord		None	None		None	None	
Lane Grp Cap (vph)	508	2653		338	2655	1794		255		225	316	1794
v/s Ratio Prot		0.30			0.24	0.05					0.00	0.02
v/s Ratio Perm	0.03			0.08				0.03		0.11		
Critical LG?		Yes								Yes		
Act Effct Green (s)	77.6	77.6		77.6	77.6	100.0		16.4		16.4	16.4	100.0
Actuated g/C Ratio	0.78	0.78		0.78	0.78	1.00		0.16		0.16	0.16	1.00
v/c Ratio	0.04	0.38		0.11	0.31	0.05		0.18		0.66	0.01	0.02
Uniform Delay, d1	2.6	3.5		2.7	3.3	0.0		20.9		39.2	35.0	0.0
Platoon Factor	1.04	1.04		1.02	1.61	1.00		0.89		0.89	0.89	1.00
Incr. Delay, d2	0.1	0.4		0.6	0.3	0.1		0.3		6.8	0.0	0.0
Webster Delay	2.8	4.1		3.4	5.6	0.1		19.0		41.7	31.0	0.0

Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Webster LOS	A	A		A	A	A		B		D	C	A

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 47 (47%), Referenced to phase 2:EBWB, Start of Yellow
Natural Cycle: 40
Control Type: Actuated-Coordinated
Total Lost Time: 6
Sum of Critical v/s Ratios: 0.40
Intersection v/c Ratio: 0.43
Intersection Webster Signal Delay: 7.3
Intersection LOS: A

Splits and Phases: 124: Dell Range Blvd & Powderhouse Rd



Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	10	12	16	12	16	12	12	16	16
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	209		0	196		0	0		0	0		0
Storage Lanes	1		0	1		1	0		0	0		1
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1711	3397	0	1652	3539	1794	0	1723	0	0	2025	1794
Flt Perm.	0.329			0.254				0.864			0.681	
Satd. Flow (perm)	592	3397	0	442	3539	1794	0	1518	0	0	1438	1794
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13				80		47				34
Volume (vph)	21	853	42	45	705	75	46	13	59	71	13	31
Confl. Peds. (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	23	995	0	50	783	83	0	131	0	0	93	34
Turn Type	Perm			Perm		Free	Perm			Perm		Free
Protected Phases		2			2			4			4	
Permitted Phases	2			2		Free	4			4		Free
Detector Phases	2	2		2	2		4	4		4	4	
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		21.2	21.2		21.2	21.2	
Total Split (s)	75.0	75.0	0.0	75.0	75.0	0.0	25.0	25.0	0.0	25.0	25.0	0.0
Total Split (%)	75%	75%	0%	75%	75%	0%	25%	25%	0%	25%	25%	0%
Yellow Time (s)	3.9	3.9		3.9	3.9		3.2	3.2		3.2	3.2	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Coord	Coord		Coord	Coord		None	None		None	None	
Lane Grp Cap (vph)	481	2764		359	2877	1794		234			183	1794
v/s Ratio Prot		0.29			0.22	0.05						0.02
v/s Ratio Perm	0.04			0.11				0.07			0.06	
Critical LG?		Yes						Yes				
Act Effct Green (s)	81.3	81.3		81.3	81.3	100.0		12.7			12.7	100.0
Actuated g/C Ratio	0.81	0.81		0.81	0.81	1.00		0.13			0.13	1.00
v/c Ratio	0.05	0.36		0.14	0.27	0.05		0.56			0.51	0.02
Uniform Delay, d1	1.8	2.4		2.0	2.2	0.0		25.9			40.7	0.0
Platoon Factor	0.93	0.91		0.23	0.22	1.00		0.80			0.80	1.00
Incr. Delay, d2	0.2	0.3		0.8	0.2	0.0		2.9			2.2	0.0
Webster Delay	1.9	2.6		1.2	0.7	0.0		23.6			34.7	0.0

Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Webster LOS	A	A		A	A	A		C			C	A

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 76 (76%), Referenced to phase 2:EBWB, Start of Yellow
Natural Cycle: 45
Control Type: Actuated-Coordinated
Total Lost Time: 6
Sum of Critical v/s Ratios: 0.36
Intersection v/c Ratio: 0.39
Intersection Webster Signal Delay: 4.3
Intersection LOS: A

Splits and Phases: 125: Dell Range Blvd & Driftwood Dr

Lanes, Volumes, Timings

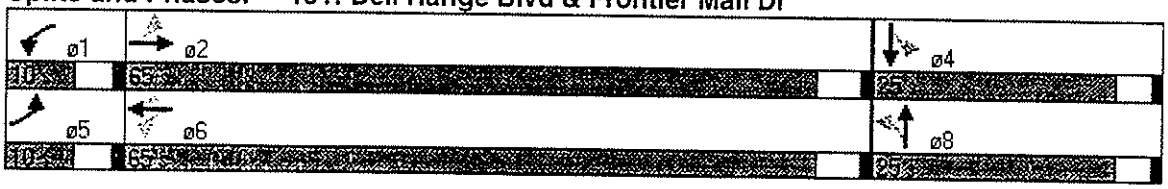
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	11	11	16	11	12	12	10	13	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	251		0	225		0	70		0	220		0
Storage Lanes	1		0	1		1	1		0	1		0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1711	3414	0	1711	3421	1794	1711	1688	0	1652	1696	0
Flt Perm.	0.302			0.226			0.711			0.729		
Satd. Flow (perm)	544	3414	0	407	3421	1794	1280	1688	0	1267	1696	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				203		27			54	
Volume (vph)	56	894	11	24	718	183	22	14	24	145	13	49
Confl. Peds. (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	62	1005	0	27	798	203	24	43	0	161	68	0
Turn Type	Pm+Pt			Pm+Pt		Perm	Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phases	5	2		1	6	6	8	8		4	4	
Minimum Initial (s)	2.0	4.0		2.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	7.0	20.0		6.2	20.0	20.0	21.2	21.2		21.2	21.2	
Total Split (s)	10.0	65.0	0.0	10.0	65.0	65.0	25.0	25.0	0.0	25.0	25.0	0.0
Total Split (%)	10%	65%	0%	10%	65%	65%	25%	25%	0%	25%	25%	0%
Yellow Time (s)	3.2	3.9		3.2	3.9	3.9	3.2	3.2		3.2	3.2	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?												
Recall Mode	None	Coord		None	Coord	Coord	None	None		None	None	
Lane Grp Cap (vph)	472	2339		353	2302	1274	229	324		227	348	
v/s Ratio Prot	0.01	0.29		0.00	0.23							
v/s Ratio Perm	0.09			0.05		0.11	0.02	0.02		0.13	0.03	
Critical LG?	Yes	Yes								Yes		
Act Effct Green (s)	74.3	68.5		71.9	67.3	67.3	17.9	17.9		17.9	17.9	
Actuated g/C Ratio	0.74	0.69		0.72	0.67	0.67	0.18	0.18		0.18	0.18	
v/c Ratio	0.13	0.43		0.08	0.35	0.16	0.10	0.13		0.71	0.20	
Uniform Delay, d1	3.0	7.0		3.0	7.0	0.0	34.3	12.7		38.6	7.0	
Platoon Factor	0.83	1.18		0.23	0.19	99.00	0.90	0.90		0.90	0.90	
Incr. Delay, d2	0.1	0.6		0.1	0.4	0.3	0.2	0.2		9.7	0.3	
Webster Delay	2.6	8.8		0.8	1.7	0.3	31.2	11.6		44.5	6.6	

Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Webster LOS	A	A		A	A	A	C	B		D	A	

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 77 (77%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 50
Control Type: Actuated-Coordinated
Total Lost Time: 9
Sum of Critical v/s Ratios: 0.43
Intersection v/c Ratio: 0.47
Intersection Webster Signal Delay: 8.1
Intersection LOS: A

Splits and Phases: 151: Dell Range Blvd & Frontier Mall Dr



Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	16	10	13	12	11	11	13
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	222		0	238		0	73		0	119		119
Storage Lanes	1		0	1		1	1		0	1		1
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1711	3532	0	1711	3539	1794	1652	1780	0	1625	1632	1636
Flt Perm.	0.225			0.155			0.950			0.950	0.702	
Satd. Flow (perm)	405	3532	0	279	3539	1794	1652	1780	0	1625	1201	1636
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				285		23				14
Volume (vph)	50	1030	14	26	850	322	36	21	21	401	9	13
Confl. Peds. (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	56	1160	0	29	944	358	40	46	0	227	229	14
Turn Type	Perm			Perm		Free	Split			Split		Perm
Protected Phases		2			6		7	7		8	8	
Permitted Phases	2			6		Free						8
Detector Phases	2	2		6	6		7	7		8	8	8
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	20.0	20.0		20.0	20.0		21.2	21.2		21.2	21.2	21.2
Total Split (s)	58.0	58.0	0.0	58.0	58.0	0.0	19.3	19.3	0.0	22.7	22.7	22.7
Total Split (%)	58%	58%	0%	58%	58%	0%	19%	19%	0%	23%	23%	23%
Yellow Time (s)	3.9	3.9		3.9	3.9		3.2	3.2		3.2	3.2	3.2
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lead/Lag							Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	Coord	Coord		Coord	Coord		None	None		None	None	None
Lane Grp Cap (vph)	263	2297		181	2300	1794	132	164		293	294	306
v/s Ratio Prot		0.33			0.27	0.20	0.02	0.02		0.14		
v/s Ratio Perm	0.14			0.10							0.19	0.01
Critical LG?		Yes					Yes				Yes	
Act Effct Green (s)	65.0	65.0		65.0	65.0	100.0	8.0	8.0		18.0	18.0	18.0
Actuated g/C Ratio	0.65	0.65		0.65	0.65	1.00	0.08	0.08		0.18	0.18	0.18
v/c Ratio	0.21	0.51		0.16	0.41	0.20	0.30	0.28		0.77	0.78	0.05
Uniform Delay, d1	7.1	9.1		6.8	8.3	0.0	43.3	21.4		39.1	39.1	0.0
Platoon Factor	0.75	0.71		1.79	1.85	1.00	0.83	0.83		0.96	0.96	1.00
Incr. Delay, d2	1.7	0.7		1.7	0.5	0.2	1.3	0.9		12.0	12.3	0.1
Webster Delay	7.0	7.2		13.9	15.9	0.2	37.2	18.7		49.5	49.8	0.1

Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Webster LOS	A	A		B	B	A	D	B		D	D	A

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 66 (66%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated
Total Lost Time: 9
Sum of Critical v/s Ratios: 0.49
Intersection v/c Ratio: 0.54
Intersection Webster Signal Delay: 15.9
Intersection LOS: B

Splits and Phases: 152: Dell Range Blvd & Prairie Ave

Lanes, Volumes, Timings

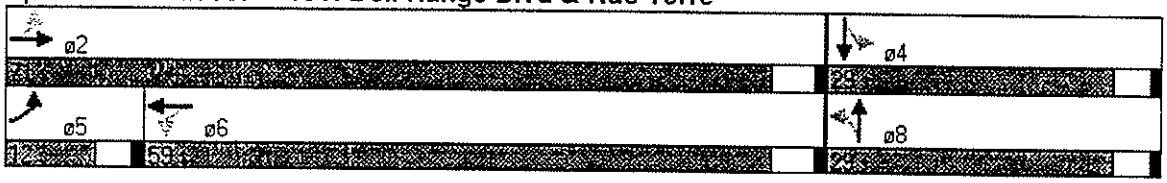
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	12	16	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	138		0	119		0	0		0	200		0
Storage Lanes	1		0	1		0	0		0	1		0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1711	3529	0	1711	3490	0	0	1695	0	1770	3015	0
Flt Perm.	0.094			0.159				0.927		0.733		
Satd. Flow (perm)	169	3529	0	286	3490	0	0	1595	0	1365	3015	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			18			38			189	
Volume (vph)	67	1266	24	36	1082	113	16	4	34	101	1	62
Confl. Peds. (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	74	1434	0	40	1328	0	0	60	0	112	70	0
Turn Type	Prm+Pt			Perm			Perm			Perm		
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phases	5	2		6	6		8	8		4	4	
Minimum Initial (s)	2.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.0	20.0		20.0	20.0		21.2	21.2		21.2	21.2	
Total Split (s)	12.0	71.0	0.0	59.0	59.0	0.0	29.0	29.0	0.0	29.0	29.0	0.0
Total Split (%)	12%	71%	0%	59%	59%	0%	29%	29%	0%	29%	29%	0%
Yellow Time (s)	3.2	3.9		3.9	3.9		3.2	3.2		3.2	3.2	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?												
Recall Mode	None	Coord		Coord	Coord		None	None		None	None	
Lane Grp Cap (vph)	238	2817		200	2452			259		194	590	
v/s Ratio Prot	0.02	0.41			0.38						0.02	
v/s Ratio Perm	0.23			0.14				0.03		0.08		
Critical LG?		Yes			Yes					Yes		
Act Effct Green (s)	79.8	79.8		70.1	70.1			14.2		14.2	14.2	
Actuated g/C Ratio	0.80	0.80		0.70	0.70			0.14		0.14	0.14	
v/c Ratio	0.31	0.51		0.20	0.54			0.23		0.58	0.12	
Uniform Delay, d1	2.1	3.4		5.2	7.1			13.7		40.1	0.0	
Platoon Factor	1.22	1.13		1.28	1.20			0.74		0.74	1.00	
Incr. Delay, d2	0.6	0.6		1.8	0.7			0.5		4.1	0.1	
Webster Delay	3.2	4.4		8.5	9.2			10.6		33.9	0.1	

Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Webster LOS	A	A		A	A			B		C	A	

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 17.3 (17%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Total Lost Time: 9
Sum of Critical v/s Ratios: 0.50
Intersection v/c Ratio: 0.55
Intersection Webster Signal Delay: 7.6
Intersection LOS: A

Splits and Phases: 161: Dell Range Blvd & Rue Terre



Lanes, Volumes, Timings

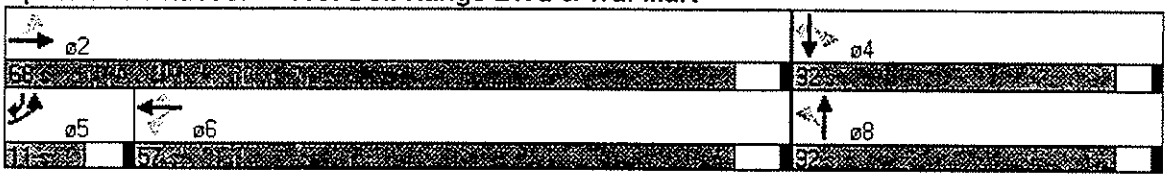
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	15	12	12	12	12	11	14
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	97		0	126		200	225		0	0		200
Storage Lanes	1		0	1		1	1		0	0		1
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3518	0	1770	3539	1742	1770	3353	0	0	1718	1689
Flt Perm.	0.096			0.105			0.413				0.692	
Satd. Flow (perm)	179	3518	0	196	3539	1742	769	3353	0	0	1246	1689
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8				53		44				44
Volume (vph)	125	1397	54	31	1162	48	47	7	46	224	10	99
Confl. Peds. (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	139	1612	0	34	1291	53	52	59	0	0	260	110
Turn Type	Pm+Pt			Perm		Perm	Perm			Perm		Pm+Ov
Protected Phases	5	2			6			8			4	5
Permitted Phases	2			6		6	8			4		4
Detector Phases	5	2		6	6	6	8	8		4	4	5
Minimum Initial (s)	2.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	2.0
Minimum Split (s)	7.0	20.0		20.0	20.0	20.0	21.2	21.2		21.2	21.2	7.0
Total Split (s)	11.0	68.0	0.0	57.0	57.0	57.0	32.0	32.0	0.0	32.0	32.0	11.0
Total Split (%)	11%	68%	0%	57%	57%	57%	32%	32%	0%	32%	32%	11%
Yellow Time (s)	3.2	3.9		3.9	3.9	3.9	3.2	3.2		3.2	3.2	3.2
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lead/Lag	Lead			Lag	Lag	Lag						Lead
Lead-Lag Optimize?												
Recall Mode	None	Coord		Coord	Coord	Coord	None	None		None	None	None
Lane Grp Cap (vph)	249	2430		114	2056	1034	192	871			312	635
v/s Ratio Prot	0.04	0.46			0.36			0.02				0.01
v/s Ratio Perm	0.34			0.17		0.03	0.07				0.21	0.05
Critical LG?		Yes									Yes	
Act Effct Green (s)	69.0	69.0		58.1	58.1	58.1	25.0	25.0			25.0	35.9
Actuated g/C Ratio	0.69	0.69		0.58	0.58	0.58	0.25	0.25			0.25	0.36
v/c Ratio	0.56	0.66		0.30	0.63	0.05	0.27	0.07			0.83	0.17
Uniform Delay, d1	5.2	8.8		10.6	13.8	0.0	30.2	7.2			35.5	12.8
Platoon Factor	1.54	1.38		1.08	1.08	99.00	0.90	0.90			0.90	0.94
Incr. Delay, d2	2.5	1.3		4.8	1.1	0.1	0.8	0.0			17.1	0.1
Webster Delay	10.5	13.5		16.3	16.0	0.1	27.8	6.5			48.9	12.2

Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Webster LOS	B	B		B	B	A	C	A			D	B

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 24.3 (24%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Total Lost Time: 6
Sum of Critical v/s Ratios: 0.67
Intersection v/c Ratio: 0.71
Intersection Webster Signal Delay: 16.7
Intersection LOS: B

Splits and Phases: 160: Dell Range Blvd & Wal Mart



Lanes, Volumes, Timings

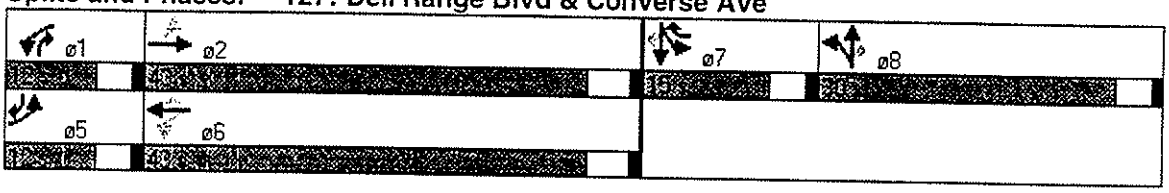
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	146		197	147		92	182		270	99		99
Storage Lanes	1		1	1		1	2		1	1		1
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1681	1736	1583	1770	3539	1583
Flt Perm.	0.205			0.100			0.950	0.821		0.950		
Satd. Flow (perm)	382	3539	1583	186	3539	1583	1681	1453	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			341			61			95			67
Volume (vph)	169	980	550	186	741	63	519	238	341	99	107	173
Confl. Peds. (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	188	1089	611	207	823	70	414	427	379	110	119	192
Turn Type	Pm+Pt		Free	Pm+Pt		Pm+Ov	Split		Pm+Ov	Split		Pm+Ov
Protected Phases	5	2		1	6	7	8	8	1	7	7	5
Permitted Phases	2		Free	6		6			8			7
Detector Phases	5	2		1	6	7	8	8	1	7	7	5
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.2	20.0		8.2	20.0	21.2	21.2	21.2	8.2	21.2	21.2	8.2
Total Split (s)	12.0	43.0	0.0	12.0	43.0	15.0	30.0	30.0	12.0	15.0	15.0	12.0
Total Split (%)	12%	43%	0%	12%	43%	15%	30%	30%	12%	15%	15%	12%
Yellow Time (s)	3.2	3.9		3.2	3.9	3.2	3.2	3.2	3.2	3.2	3.2	3.2
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?												
Recall Mode	None	Coord		None	Coord	None	None	None	None	None	None	None
Lane Grp Cap (vph)	318	1472	1583	237	1472	907	444	458	666	195	389	370
v/s Ratio Prot	0.05	0.31	0.39	0.08	0.23	0.01	0.25		0.05	0.06	0.03	0.05
v/s Ratio Perm	0.25			0.36		0.03		0.29	0.17			0.06
Critical LG?				Yes			Yes			Yes		
Act Effct Green (s)	50.6	41.6	100.0	50.6	41.6	55.6	26.4	26.4	38.4	11.0	11.0	20.0
Actuated g/C Ratio	0.51	0.42	1.00	0.51	0.42	0.56	0.26	0.26	0.38	0.11	0.11	0.20
v/c Ratio	0.59	0.74	0.39	0.87	0.56	0.08	0.93	0.93	0.57	0.56	0.31	0.52
Uniform Delay, d1	12.1	24.6	0.0	18.2	22.2	1.3	35.9	35.9	17.6	42.2	40.9	11.8
Platoon Factor	0.76	0.94	1.00	0.86	1.02	3.97	0.98	0.98	0.98	0.98	0.98	0.97
Incr. Delay, d2	2.2	2.6	0.5	27.5	1.5	0.0	26.5	26.0	1.1	3.7	0.4	1.2
Webster Delay	11.5	25.8	0.5	43.2	24.0	5.1	61.9	61.3	18.3	45.0	40.5	12.6

Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Webster LOS	B	C	A	D	C	A	E	E	B	D	D	B

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 49 (49%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Total Lost Time: 12
Sum of Critical v/s Ratios: 0.75
Intersection v/c Ratio: 0.85
Intersection Webster Signal Delay: 28.2
Intersection LOS: C

Splits and Phases: 127: Dell Range Blvd & Converse Ave



Lanes, Volumes, Timings

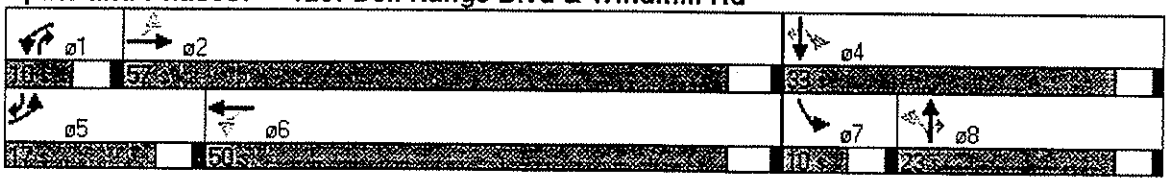
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	12	11	11	15	12	11	13
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	93		0	155		0	190		190	0		200
Storage Lanes	1		0	1		0	1		1	0		1
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3500	0	1711	3394	0	1711	1801	1742	0	1770	1636
Flt Perm.	0.231			0.212			0.708				0.885	
Satd. Flow (perm)	430	3500	0	382	3394	0	1275	1801	1742	0	1594	1636
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			8				107			94
Volume (vph)	129	874	72	33	654	37	65	88	96	24	44	85
Confl. Peds. (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	143	1051	0	37	768	0	72	98	107	0	76	94
Turn Type	Pm+Pt			Pm+Pt			Perm		Pm+Ov	Pm+Pt		Pm+Ov
Protected Phases	5	2		1	6			8	1	7	4	5
Permitted Phases	2			6			8		8	4		4
Detector Phases	5	2		1	6		8	8	1	7	4	5
Minimum Initial (s)	3.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	3.0
Minimum Split (s)	8.0	20.0		8.2	20.0		19.2	19.2	8.2	8.2	19.2	8.0
Total Split (s)	17.0	57.0	0.0	10.0	50.0	0.0	23.0	23.0	10.0	10.0	33.0	17.0
Total Split (%)	17%	57%	0%	10%	50%	0%	23%	23%	10%	10%	33%	17%
Yellow Time (s)	3.2	3.9		3.2	3.9		3.2	3.2	3.2	3.2	3.2	3.2
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag	Lead	Lead		Lead
Lead-Lag Optimize?												
Recall Mode	None	Coord		None	Coord		None	None	None	None	None	None
Lane Grp Cap (vph)	444	2569		397	2476		138	195	445		172	419
v/s Ratio Prot	0.02	0.30		0.01	0.23			0.05	0.02			0.02
v/s Ratio Perm	0.24			0.07			0.06		0.03		0.05	0.03
Critical LG?	Yes	Yes					Yes					
Act Effct Green (s)	80.6	73.3		79.8	72.9		10.8	10.8	20.7		10.8	21.1
Actuated g/C Ratio	0.81	0.73		0.80	0.73		0.11	0.11	0.21		0.11	0.21
v/c Ratio	0.32	0.41		0.09	0.31		0.52	0.50	0.24		0.44	0.22
Uniform Delay, d1	1.6	5.0		1.5	4.7		42.2	42.1	0.0		41.8	0.0
Platoon Factor	0.32	0.24		1.13	1.07		0.80	0.80	1.00		0.61	1.00
Incr. Delay, d2	0.3	0.3		0.1	0.3		3.5	2.0	0.3		1.8	0.3
Webster Delay	0.8	1.5		1.8	5.3		37.4	35.9	0.3		27.4	0.3

Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Webster LOS	A	A		A	A		D	D	A		C	A

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 16 (16%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Total Lost Time: 9
Sum of Critical v/s Ratios: 0.38
Intersection v/c Ratio: 0.42
Intersection Webster Signal Delay: 5.8
Intersection LOS: A

Splits and Phases: 128: Dell Range Blvd & Windmill Rd



Lanes, Volumes, Timings

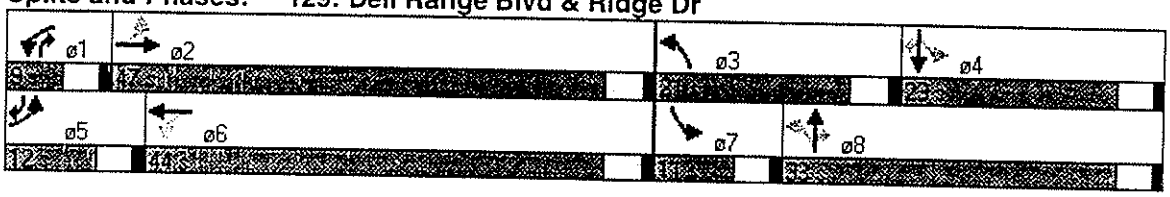
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	16	11	13	12	11	12	16	12	11	13
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	135		0	109		0	98		98	114		114
Storage Lanes	1		1	1		0	1		1	1		1
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1652	3539	1794	1711	3599	0	1711	1863	1794	1770	1801	1636
Flt Perm.	0.304			0.316			0.350			0.709		
Satd. Flow (perm)	529	3539	1794	569	3599	0	630	1863	1794	1321	1801	1636
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			251		15				74			73
Volume (vph)	73	614	226	24	483	57	203	67	67	73	133	66
Confl. Peds. (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	81	682	251	27	600	0	226	74	74	81	148	73
Turn Type	Pm+Pt		Free	Pm+Pt			Pm+Pt		Pm+Ov	Pm+Pt		Pm+Ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases	2		Free	6			8		8	4		4
Detector Phases	5	2		1	6		3	8	1	7	4	5
Minimum Initial (s)	2.0	4.0		2.0	4.0		3.0	4.0	2.0	3.0	4.0	2.0
Minimum Split (s)	7.0	20.0		7.0	20.0		7.2	21.2	7.0	7.2	21.2	7.0
Total Split (s)	12.0	47.0	0.0	9.0	44.0	0.0	21.0	33.0	9.0	11.0	23.0	12.0
Total Split (%)	12%	47%	0%	9%	44%	0%	21%	33%	9%	11%	23%	12%
Yellow Time (s)	3.2	3.2		3.2	3.2		3.2	3.2	3.2	3.2	3.2	3.2
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?												
Recall Mode	None	Min		None	None		None	None	None	None	None	None
Lane Grp Cap (vph)	401	1568	1794	325	1445		381	321	544	487	298	557
v/s Ratio Prot	0.02	0.19	0.20	0.00	0.17		0.09	0.04	0.01	0.03	0.08	0.01
v/s Ratio Perm	0.09			0.03			0.10		0.02	0.03		0.02
Critical LG?	Yes	Yes	Yes				Yes					
Act Effct Green (s)	37.2	30.3	68.4	31.2	27.3		22.7	11.8	18.7	21.7	11.3	21.2
Actuated g/C Ratio	0.54	0.44	1.00	0.46	0.40		0.33	0.17	0.27	0.32	0.17	0.31
v/c Ratio	0.20	0.43	0.14	0.08	0.42		0.59	0.23	0.14	0.17	0.50	0.13
Uniform Delay, d1	7.5	13.1	0.0	7.5	14.4		15.8	24.4	0.0	14.4	26.0	0.0
Platoon Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incr. Delay, d2	0.2	0.9	0.2	0.1	0.9		2.5	0.4	0.1	0.2	1.3	0.1
Webster Delay	7.7	14.0	0.2	7.6	15.3		18.2	24.7	0.1	14.5	27.3	0.1

Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Webster LOS	A	B	A	A	B		B	C	A	B	C	A

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 68.4
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Total Lost Time: 3
Sum of Critical v/s Ratios: 0.43
Intersection v/c Ratio: 0.44
Intersection Webster Signal Delay: 13.3
Intersection LOS: B

Splits and Phases: 129: Dell Range Blvd & Ridge Dr



Lanes, Volumes, Timings

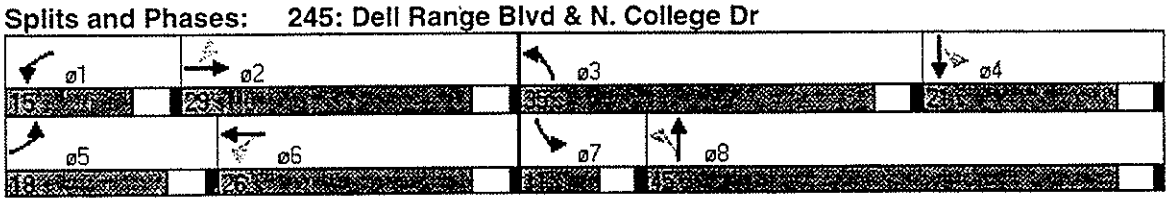
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	14	13	12	12	12	12	12	11	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	100		0	97		0	143		0	96		0
Storage Lanes	1		1	1		0	1		0	1		0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	50	50	50	50	50		50	50		50	50	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3421	1689	1829	3465	0	1770	3345	0	1711	3373	0
Flt Perm.	0.326			0.411			0.165			0.484		
Satd. Flow (perm)	607	3421	1689	791	3465	0	307	3345	0	872	3373	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			340		17			142			65	
Volume (vph)	161	377	306	119	300	48	362	266	154	54	199	91
Confl. Peds. (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Lane Group Flow (vph)	179	419	340	132	386	0	402	467	0	60	322	0
Turn Type	Pm+Pt		Free	Pm+Pt			Pm+Pt			Pm+Pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6			8			4		
Detector Phases	5	2		1	6		3	8		7	4	
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.2	19.2		8.2	19.2		8.2	20.2		8.2	20.2	
Total Split (s)	18.0	29.0	0.0	15.0	26.0	0.0	35.0	45.0	0.0	11.0	21.0	0.0
Total Split (%)	18%	29%	0%	15%	26%	0%	35%	45%	0%	11%	21%	0%
Yellow Time (s)	3.2	3.2		3.2	3.2		3.2	3.2		3.2	3.2	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	Min		None	None		None	None		None	None	
Lane Grp Cap (vph)	370	766	1689	373	728		552	1477		306	786	
v/s Ratio Prot	0.06	0.12	0.30	0.04	0.11		0.19	0.13		0.01	0.09	
v/s Ratio Perm	0.11			0.07			0.19			0.04		
Critical LG?	Yes	Yes					Yes					
Act Effct Green (s)	24.2	15.2	67.9	21.8	14.0		35.9	28.3		19.4	14.8	
Actuated g/C Ratio	0.36	0.22	1.00	0.32	0.21		0.53	0.42		0.29	0.22	
v/c Ratio	0.48	0.55	0.20	0.35	0.53		0.73	0.32		0.20	0.41	
Uniform Delay, d1	14.4	23.3	0.0	14.1	22.9		12.9	8.9		10.0	17.9	
Platoon Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incr. Delay, d2	1.0	2.8	0.3	0.6	2.8		4.8	0.1		0.3	0.3	
Webster Delay	15.4	26.1	0.3	14.6	25.6		17.7	9.1		10.3	18.3	

Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Webster LOS	B	C	A	B	C		B	A		B	B	

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 67.9
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Total Lost Time: 9
Sum of Critical v/s Ratios: 0.58
Intersection v/c Ratio: 0.63
Intersection Webster Signal Delay: 16.1
Intersection LOS: B

Splits and Phases: 245: Dell Range Blvd & N. College Dr



Intersection Queue

Queues

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	3	402	12	562	51	10	93	6	4
Queue Length 50th (ft)	0	18	0	1	0	2	43	3	0
Queue Length 95th (ft)	2	38	2	14	0	10	83	12	0
Link Length (ft)		788		1496		870		1263	
50th Up Block Time (%)									
95th Up Block Time (%)									
Turn Bay Length (ft)	200		257				91		
50th Bay Block Time %									
95th Bay Block Time %									
Queuing Penalty (veh)									

Queues

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	2	435	12	607	14	15	4	1
Queue Length 50th (ft)	0	0	0	0	0	4	2	0
Queue Length 95th (ft)	m0	0	2	16	0	21	11	0
Link Length (ft)		1496		577		92	266	
50th Up Block Time (%)								
95th Up Block Time (%)								
Turn Bay Length (ft)	209		196					
50th Bay Block Time %								
95th Bay Block Time %								
Queuing Penalty (veh)								

m Volume for 95th percentile queue is metered by upstream signal.

Queues

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	37	455	16	709	59	3	8	16	39
Queue Length 50th (ft)	3	0	0	12	1	1	1	8	3
Queue Length 95th (ft)	6	8	1	17	1	9	13	25	30
Link Length (ft)		577		1106			384		630
50th Up Block Time (%)									
95th Up Block Time (%)									
Turn Bay Length (ft)	251		225			84		134	
50th Bay Block Time %									
95th Bay Block Time %									
Queuing Penalty (veh)									

Queues

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	22	549	29	550	232	31	32	107	114	9
Queue Length 50th (ft)	3	45	4	45	0	15	3	52	55	0
Queue Length 95th (ft)	11	66	m2	10	0	39	25	104	108	0
Link Length (ft)		1106		746			419		712	
50th Up Block Time (%)										
95th Up Block Time (%)										
Turn Bay Length (ft)	222		238			73		119		115
50th Bay Block Time %										
95th Bay Block Time %										
Queuing Penalty (veh)										

m Volume for 95th percentile queue is metered by upstream signal.

Queues

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	6	629	41	1195	48	80	71
Queue Length 50th (ft)	1	0	3	14	1	37	0
Queue Length 95th (ft)	m1	9	18	138	6	75	2
Link Length (ft)		746		783	213		476
50th Up Block Time (%)							
95th Up Block Time (%)							
Turn Bay Length (ft)	138		119			200	
50th Bay Block Time %							
95th Bay Block Time %				13%			
Queuing Penalty (veh)				2			

m Volume for 95th percentile queue is metered by upstream signal.

Queues

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	16	489	21	874	19	16	21	15	12
Queue Length 50th (ft)	1	0	0	0	0	8	0	7	0
Queue Length 95th (ft)	2	14	m2	25	m0	25	21	24	13
Link Length (ft)		783		1380			394	385	
50th Up Block Time (%)									
95th Up Block Time (%)									
Turn Bay Length (ft)	97		126		200	225			
50th Bay Block Time %									
95th Bay Block Time %									
Queuing Penalty (veh)									

m Volume for 95th percentile queue is metered by upstream signal.

Queues

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	68	291	274	458	727	66	142	145	104	29	178	119
Queue Length 50th (ft)	11	41	0	51	97	0	69	70	0	13	43	0
Queue Length 95th (ft)	36	71	0	#241	138	0	116	118	37	35	71	42
Link Length (ft)		1380			1485			3129			962	
50th Up Block Time (%)												
95th Up Block Time (%)												
Turn Bay Length (ft)	146		197	147		92	182		270	99		99
50th Bay Block Time %												
95th Bay Block Time %				32%	5%							
Queuing Penalty (veh)				58	12							

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	37	393	187	810	41	19	26	154	143
Queue Length 50th (ft)	1	0	26	54	18	8	0	72	16
Queue Length 95th (ft)	0	0	35	84	43	24	12	121	55
Link Length (ft)		1485		3073		134		234	
50th Up Block Time (%)									
95th Up Block Time (%)									
Turn Bay Length (ft)	93		155		190		190		200
50th Bay Block Time %									
95th Bay Block Time %									
Queuing Penalty (veh)									

Queues

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	27	207	56	26	750	93	66	19	69	137	86
Queue Length 50th (ft)	1	6	0	4	57	35	29	0	26	64	0
Queue Length 95th (ft)	9	28	0	m13	195	66	61	17	52	110	29
Link Length (ft)		3073			1929		5174			184	
50th Up Block Time (%)											
95th Up Block Time (%)											
Turn Bay Length (ft)	135			109		98		98	114		114
50th Bay Block Time %					6%						
95th Bay Block Time %					10%					5%	
Queuing Penalty (veh)					2					2	

m Volume for 95th percentile queue is metered by upstream signal.

Queues

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	36	92	184	126	376	239	155	39	408
Queue Length 50th (ft)	8	12	0	28	56	85	17	12	72
Queue Length 95th (ft)	15	26	0	60	94	131	36	29	110
Link Length (ft)		1929			1852		5179		9572
50th Up Block Time (%)									
95th Up Block Time (%)									
Turn Bay Length (ft)	100			97		143		96	
50th Bay Block Time %									
95th Bay Block Time %					3%	3%			11%
Queuing Penalty (veh)									2

Queues

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	18	1011	36	813	98	46	148	2	29
Queue Length 50th (ft)	2	88	4	114	0	14	89	1	0
Queue Length 95th (ft)	9	140	17	154	0	44	148	7	0
Link Length (ft)		788		1496		870		1263	
50th Up Block Time (%)									
95th Up Block Time (%)									
Turn Bay Length (ft)	200		257				91		
50th Bay Block Time %							4%		
95th Bay Block Time %				1%			34%		
Queuing Penalty (veh)									

Queues

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	23	995	50	783	83	131	93	34
Queue Length 50th (ft)	2	15	1	7	0	50	56	0
Queue Length 95th (ft)	m5	46	6	27	0	105	101	0
Link Length (ft)		1496		577		92	266	
50th Up Block Time (%)								
95th Up Block Time (%)						14%		
Turn Bay Length (ft)	209		196					
50th Bay Block Time %								
95th Bay Block Time %								
Queuing Penalty (veh)								

m Volume for 95th percentile queue is metered by upstream signal.

Queues

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	62	1005	27	798	203	24	43	161	68
Queue Length 50th (ft)	7	51	1	17	0	13	8	97	7
Queue Length 95th (ft)	15	80	m2	23	1	34	37	161	42
Link Length (ft)		577		1106			384		630
50th Up Block Time (%)									
95th Up Block Time (%)									
Turn Bay Length (ft)	251		225			70		220	
50th Bay Block Time %									
95th Bay Block Time %									
Queuing Penalty (veh)									

m Volume for 95th percentile queue is metered by upstream signal.

Queues

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	56	1160	29	944	358	40	46	227	229	14
Queue Length 50th (ft)	9	90	8	184	0	24	14	143	144	0
Queue Length 95th (ft)	m22	101	m18	292	0	56	47	#249	#251	17
Link Length (ft)		1106		746			419		721	
50th Up Block Time (%)										
95th Up Block Time (%)										
Turn Bay Length (ft)	222		238			73		119		119
50th Bay Block Time %				3%				15%	16%	
95th Bay Block Time %				8%				43%	43%	
Queuing Penalty (veh)				1				70	67	

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Queues

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	74	1434	40	1328	60	112	70
Queue Length 50th (ft)	11	137	9	192	10	68	0
Queue Length 95th (ft)	m32	195	m20	226	43	116	0
Link Length (ft)		746		785	213		476
50th Up Block Time (%)							
95th Up Block Time (%)							
Turn Bay Length (ft)	138		119			200	
50th Bay Block Time %				15%			
95th Bay Block Time %		15%		18%			
Queuing Penalty (veh)		5		6			

m Volume for 95th percentile queue is metered by upstream signal.

Queues

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	139	1612	34	1291	53	52	59	260	110
Queue Length 50th (ft)	26	286	12	275	6	26	6	153	25
Queue Length 95th (ft)	76	173	m22	m345	m14	59	33	#262	60
Link Length (ft)		785		1378			414	433	
50th Up Block Time (%)									
95th Up Block Time (%)									
Turn Bay Length (ft)	97		126		200	225			200
50th Bay Block Time %		17%		26%					
95th Bay Block Time %		19%		29%				21%	
Queuing Penalty (veh)		25		9				11	

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Queues

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	188	1089	611	207	823	70	414	427	379	110	119	192
Queue Length 50th (ft)	39	379	0	81	218	7	269	277	137	67	36	38
Queue Length 95th (ft)	m58	365	0	#216	284	18	#458	#468	232	123	64	75
Link Length (ft)		1378			1485			3129			962	
50th Up Block Time (%)												
95th Up Block Time (%)												
Turn Bay Length (ft)	146		197	147		92	182		270	99		99
50th Bay Block Time %		22%			24%		25%	27%				
95th Bay Block Time %		19%		20%	27%		49%	49%	15%	22%		
Queuing Penalty (veh)		38		41	52		140	143	64	6		

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	143	1051	37	768	72	98	107	76	94
Queue Length 50th (ft)	4	0	3	78	44	59	0	45	0
Queue Length 95th (ft)	m14	105	11	131	84	105	36	85	34
Link Length (ft)		1485		3073		134		234	
50th Up Block Time (%)									
95th Up Block Time (%)									
Turn Bay Length (ft)	93		155		190		190		200
50th Bay Block Time %									
95th Bay Block Time %		6%							
Queuing Penalty (veh)		4							

m Volume for 95th percentile queue is metered by upstream signal.

Queues

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	81	682	251	27	600	226	74	74	81	148	73
Queue Length 50th (ft)	15	107	0	5	95	49	21	0	16	47	0
Queue Length 95th (ft)	48	201	0	21	180	114	55	22	46	119	26
Link Length (ft)		3073			1929		5174			184	
50th Up Block Time (%)											
95th Up Block Time (%)											
Turn Bay Length (ft)	135			109		98		98	114		114
50th Bay Block Time %											
95th Bay Block Time %		24%			27%	14%				10%	
Queuing Penalty (veh)		10			3	10				4	

Queues

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	179	419	340	132	386	402	467	60	322
Queue Length 50th (ft)	45	78	0	32	67	112	50	12	48
Queue Length 95th (ft)	123	166	0	93	154	261	102	36	118
Link Length (ft)		1929			1852		5179		262
50th Up Block Time (%)									
95th Up Block Time (%)									
Turn Bay Length (ft)	100			97		143		96	
50th Bay Block Time %									
95th Bay Block Time %	16%	32%		4%	24%	28%			17%
Queuing Penalty (veh)	17	28		3	15	33			5

Queuing Analysis

DELL RANGE CORRIDOR QUEUING ANALYSIS

		Queuing Analysis Summary											
Cross Street	Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Powderhouse	AM	2 / 200	38 / -	- / -	2 / 257	14 / -	Free	- / -	10 / -	- / -	83 / 91	12/-	Free
	PM	9/200	140/-	- / -	16/257	150/-	Free	- / -	44/-	- / -	148/91	7/-	Free
Driftwood	AM	0 / 209	0 / -	- / -	2 / 196	16 / -	Free	- / -	21 / -	- / -	- / -	11 / -	Free
	PM	5/209	46/-	- / -	7/196	34/-	Free	- / -	105/-	- / -	- / -	101/-	Free
Frontier Mall	AM	6 / 251	8 / -	- / -	1 / 225	18 / -	Free	9 / 84	13/ -	- / -	25 / 134	30 / -	- / -
	PM	15/251	80/-	- / -	2/250	23/-	Free	34/70	37/-	- / -	161/220	42/-	- / -
Prairie/Bluegrass	AM	11 /222	66 / -	- / -	4 /238	12 / -	Free	39 / 73	25/ -	- / -	104 / 119	108 / -	12 / 119
	PM	22/222	101/-	- / -	18/238	292/-	Free	56/73	47/-	- / -	249/119	251/-	17/119
Rue Terre	AM	1/138	101/-	- / -	18/119	138/-	- / -	- / -	5/-	- / -	75/20	92/-	- / -
	PM	32/138	195/-	- / -	20/119	226/-	- / -	- / -	43/-	- / -	116/200	0/-	- / -
Wal-Mart	AM	1/97	15/-	- / -	0/126	24/-	0/200	25/225	21/-	- / -	- / -	24/-	13/200
	PM	76/97	173/-	- / -	22/126	345/-	14/200	59/225	33/-	- / -	- / -	262/-	60/200
Converse	AM	36/146	71/-	0/197	241/147	138/-	0/92	116/182	118/-	37/270	35/99	71/-	42/99
	PM	58/146	365/-	0/197	216/147	284/-	18/92	458/182	468/-	232/270	123/99	64/-	75/99
Windmill	AM	3/93	88/-	- / -	44/155	89/-	- / -	47/190	27/-	16/190	- / -	121/-	55/200
	PM	26/93	370/-	- / -	19/155	212/-	- / -	-/190	134/-	36/190	- / -	85/-	34/20
Ridge	AM	9/135	27/-	Free	13/109	195/0	- / -	66/98	61/-	17/98	52/114	110/-	29/114
	PM	48/135	201/-	Free	21/109	180/0	- / -	114/98	55/-	22/98	46/114	119/-	26/114
N. College	AM	15/100	27/-	Free	60/97	94/-	- / -	131/143	36/-	- / -	29/96	110/-	- / -
	PM	123/100	166/-	Free	93/97	154/-	- / -	261/143	102/-	- / -	36/96	262/-	- / -

LEGEND

projected vehicle queue lengths (feet) / actual turn-bay length(feet)

Free = Free Right turn

AM (Ridge) WBT blocks WBL 10% of the cycle
SBT blocks SBL & SBR 5% cycle

AM (Windmill) EBT blocks EBL 5% cycle

AM (N. College) WBT block WBL 3% of cycle
NBL extend in thru lane and block it 3% cycle
SBT block SBL 11% of cycle

AM (Rue Terre) WBT blocks WBL 13% cycle

AM (Converse) WBT blocks WBL 5% of cycle
WBL blocks WBT 32% of cycle

PM (Powderhouse) SBL block SBT 34% cycle
Pra/B.6-SBL and SBT exceeds capacity
WBT blocks WBC/WBR 3% cycle

PM (Rue Terre) EBT block EBL 15% cycle
WBT block WBL 15% cycle

PM (Walmart) SBT exceeds capacity
EBT block EBL 19% cycle
WBT block WBL/WBR 29% cycle
SBT block SBR 21% cycle

PM (Ridge) EBT block EBL/EBR 24% cycle
WBT block WBL 27% cycle
NBL block NBT 14% cycle
SBT block SBL/ SBR 10% cycle

PM EBL block EBT 16% cycle
EBT block EBL 32% cycle
WBL block WBT 4% cycle
WBT block WBL 24% cycle
NBL block NBT 28% cycle
SBT block SBL 17% cycle

PM Converse EBT blocks EBL&EBR 19% of cycle
WBL blocks WBT 20% of cycle
WBT blocks WBL 27% of cycle
NBL blocks NBT 49% of cycle
NBT blocks NBL/NBR 49% of cycle
NBR blocks NBT 15% of cycle
SBL blocks SBT 22% of cycle

Travel Times

Travel Time Run Results

Dell Range Boulevard

Travel Time After Implementation

A.M. Dell Range Boulevard Eastbound Traffic

From:	To:	Distance	Running Time	Delay Time	Travel Time	Running Speed	Travel Speed	HCM LOS
Powderhouse Rd	Driftwood Dr.	1576	37.0	0.0	37.0	29.0	29.0	B
Driftwood	Frontier Mall Dr	657	13.0	0.0	13.0	34.5	34.5	A
Frontier Mall Dr	Prairie Ave	1186	29.0	0.0	29.0	27.9	27.9	B
Prairie Ave	Rue Terre	826	18.0	0.0	18.0	31.3	31.3	A
Rue Terre	Wal-Mart Ent	865	17.0	0.0	17.0	34.7	34.7	A
Wal-Mart Ent	Converse Ave	1458	25.0	7.0	32.0	39.8	31.1	A
Converse Ave	Windmill Rd	1565	43.0	0.0	43.0	24.8	24.8	B
Windmill Rd	Ridge Rd.	3153	59.0	0.0	59.0	36.4	36.4	A
Ridge Rd.	College Ave	2009	36.0	0.0	36.0	38.0	38.0	A
Powderhouse Rd	College Ave	13295	277.0	7.0	284.0			
Total time (minutes)			4.6	0.1	4.7			

Run # 1
Dates of runs 02/09/00

Travel Time After Implementation

A.M. Dell Range Boulevard Westbound Traffic

From:	To:	Distance	Running Time	Delay Time	Travel Time	Running Speed	Travel Speed	HCM LOS
College Ave	Ridge Rd.	2009	38.0	0.0	38.0	36.0	36.0	A
Ridge Rd.	Windmill Rd	3153	52.0	0.0	52.0	41.3	41.3	A
Windmill Rd	Converse Ave	1565	29.0	0.0	29.0	36.8	36.8	A
Converse Ave	Wal-Mart Ent	1458	26.0	0.0	26.0	38.2	38.2	A
Wal-Mart Ent	Rue Terre	865	15.0	0.0	15.0	39.3	39.3	A
Rue Terre	Prairie Ave	826	12.0	0.0	12.0	46.9	46.9	A
Prairie Ave	Frontier Mall Dr	1186	20.0	0.0	20.0	40.4	40.4	A
Frontier Mall Dr	Driftwood	657	11.0	0.0	11.0	40.7	40.7	A
Driftwood	Powderhouse Rd	1576	25.0	0.0	25.0	43.0	43.0	A
College Ave	Driftwood	13295	228.0	0.0	228.0			
Total time (minutes)			3.8	0.0	3.8			

Run # 2
Dates of runs 02/09/00

Travel Time Run Results

Dell Range Boulevard

Travel Time After Implementation

A.M. Dell Range Boulevard Eastbound Traffic

From:	To:	Distance	Running Time	Delay Time	Travel Time	Running Speed	Travel Speed	HCM LOS
Powderhouse Rd	Driftwood Dr.	1576	30.0	3.0	33.0	35.8	32.6	A
Driftwood	Frontier Mall Dr	657	17.0	0.0	17.0	26.4	26.4	B
Frontier Mall Dr	Prairie Ave	1186	22.0	22.0	44.0	36.8	18.4	C
Prairie Ave	Rue Terre	826	18.0	0.0	18.0	31.3	31.3	A
Rue Terre	Wal-Mart Ent	865	19.0	0.0	19.0	31.0	31.0	A
Wal-Mart Ent	Converse Ave	1458	29.0	0.0	29.0	34.3	34.3	A
Converse Ave	Windmill Rd	1565	28.0	0.0	28.0	38.1	38.1	A
Windmill Rd	Ridge Rd.	3153	48.0	0.0	48.0	44.8	44.8	A
Ridge Rd.	College Ave	2009	34.0	1.0	35.0	40.3	39.1	A
Powderhouse Rd	College Ave	13295	245.0	26.0	271.0			
Total time (minutes)			4.1	0.4	4.5			

Run # 3
Dates of runs 02/09/00

Travel Time After Implementation

A.M. Dell Range Boulevard Westbound Traffic

From:	To:	Distance	Running Time	Delay Time	Travel Time	Running Speed	Travel Speed	HCM LOS
College Ave	Ridge Rd.	2009	35.0	0.0	35.0	39.1	39.1	A
Ridge Rd.	Windmill Rd	3153	52.0	0.0	52.0	41.3	41.3	A
Windmill Rd	Converse Ave	1565	27.0	0.0	27.0	39.5	39.5	A
Converse Ave	Wal-Mart Ent	1458	25.0	0.0	25.0	39.8	39.8	A
Wal-Mart Ent	Rue Terre	865	16.0	0.0	16.0	36.9	36.9	A
Rue Terre	Prairie Ave	826	14.0	0.0	14.0	40.2	40.2	A
Prairie Ave	Frontier Mall Dr	1186	21.0	0.0	21.0	38.5	38.5	A
Frontier Mall Dr	Driftwood	657	11.0	0.0	11.0	40.7	40.7	A
Driftwood	Powderhouse Rd	1576	24.0	0.0	24.0	44.8	44.8	A
College Ave	Driftwood	13295	225.0	0.0	225.0			
Total time (minutes)			3.8	0.0	3.8			

Run # 4
Dates of runs 02/09/00

Travel Time Run Results

Dell Range Boulevard

Travel Time After Implementation

A.M. Dell Range Boulevard Eastbound Traffic

From:	To:	Distance	Running Time	Delay Time	Travel Time	Running Speed	Travel Speed	HCM LOS
Powderhouse Rd	Driftwood	1576	25.0	0.0	25.0	43.0	43.0	A
Driftwood	Frontier Mall Dr	657	10.0	0.0	10.0	44.8	44.8	A
Frontier Mall Dr	Prairie Ave	1186	20.0	0.0	20.0	40.4	40.4	A
Prairie Ave	Rue Terre	826	15.0	0.0	15.0	37.5	37.5	A
Rue Terre	Wal-Mart Ent	865	20.0	0.0	20.0	29.5	29.5	B
Wal-Mart Ent	Converse Ave	1458	26.0	24.0	50.0	38.2	19.9	C
Converse Ave	Windmill Rd	1565	29.0	0.0	29.0	36.8	36.8	A
Windmill Rd	Ridge Rd.	3153	48.0	0.0	48.0	44.8	44.8	A
Ridge Rd.	College Ave	2009	33.0	0.0	33.0	41.5	41.5	A
Powderhouse Rd	College Ave	13295	226.0	24.0	250.0			
			3.8	0.4	4.2			

Run # 5
Dates of runs 02/09/00

Travel Time After Implementation

A.M. Dell Range Boulevard Westbound Traffic

From:	To:	Distance	Running Time	Delay Time	Travel Time	Running Speed	Travel Speed	HCM LOS
College Ave	Ridge Rd.	2009	31.0	19.0	50.0	44.2	27.4	B
Ridge Rd.	Windmill Rd	3153	52.0	0.0	52.0	41.3	41.3	A
Windmill Rd	Converse Ave	1565	26.0	11.0	37.0	41.0	28.8	B
Converse Ave	Wal-Mart Ent	1458	27.0	0.0	27.0	36.8	36.8	A
Wal-Mart Ent	Rue Terre	865	15.0	0.0	15.0	39.3	39.3	A
Rue Terre	Prairie Ave	826	14.0	0.0	14.0	40.2	40.2	A
Prairie Ave	Frontier Mall Dr	1186	19.0	0.0	19.0	42.6	42.6	A
Frontier Mall Dr	Driftwood	657	10.0	0.0	10.0	44.8	44.8	A
Driftwood	College Ave	1576	27.0	0.0	27.0	39.8	39.8	A
College Ave	College Ave	13295	221.0	30.0	251.0			
			3.7	0.5	4.2			

Run # 6
Dates of runs 02/09/00

Travel Time Run Results

Dell Range Boulevard

Travel Time After Implementation

P.M. Dell Range Boulevard Eastbound Traffic

From:	To:	Distance	Running Time	Delay Time	Travel Time	Running Speed	Travel Speed	HCM LOS
Powderhouse Rd	Driftwood Dr.	1576	34.0	0.0	34.0	31.6	31.6	A
Driftwood	Frontier Mall Dr	657	14.0	0.0	14.0	32.0	32.0	A
Frontier Mall Dr	Prairie Ave	1186	23.0	0.0	23.0	35.2	35.2	A
Prairie Ave	Rue Terre	826	14.0	16.0	30.0	40.2	18.8	C
Rue Terre	Wal-Mart Ent	865	26.0	0.0	26.0	22.7	22.7	C
Wal-Mart Ent	Converse Ave	1458	36.0	0.0	36.0	27.6	27.6	B
Converse Ave	Windmill Rd	1565	38.0	0.0	38.0	28.1	28.1	B
Windmill Rd	Ridge Rd.	3153	70.0	0.0	70.0	30.7	30.7	A
Ridge Rd.	College Ave	2009	41.0	0.0	41.0	33.4	33.4	A
Powderhouse Rd	College Ave	13295	296.0	16.0	312.0			
Total time (minutes)			4.9	0.3	5.2			

Run # 1
Dates of runs 02/09/00

Travel Time After Implementation

P.M. Dell Range Boulevard Westbound Traffic

From:	To:	Distance	Running Time	Delay Time	Travel Time	Running Speed	Travel Speed	HCM LOS
College Ave	Ridge Rd.	2009	35.0	0.0	35.0	39.1	39.1	A
Ridge Rd.	Windmill Rd	3153	52.0	0.0	52.0	41.3	41.3	A
Windmill Rd	Converse Ave	1565	28.0	0.0	28.0	38.1	38.1	A
Converse Ave	Wal-Mart Ent	1458	31.0	0.0	31.0	32.1	32.1	A
Wal-Mart Ent	Rue Terre	865	21.0	0.0	21.0	28.1	28.1	B
Rue Terre	Prairie Ave	826	20.0	8.0	28.0	28.2	20.1	C
Prairie Ave	Frontier Mall Dr	1186	27.0	0.0	27.0	29.9	29.9	B
Frontier Mall Dr	Driftwood	657	12.0	0.0	12.0	37.3	37.3	A
Driftwood	Powderhouse Rd	1576	50.0	0.0	50.0	21.5	21.5	C
College Ave	Driftwood	13295	276.0	8.0	284.0			
Total time (minutes)			4.6	0.1	4.7			

Run # 2
Dates of runs 02/09/00

Travel Time Run Results

Dell Range Boulevard

Travel Time After Implementation

P.M. Dell Range Boulevard Eastbound Traffic

From:	To:	Distance	Running Time	Delay Time	Travel Time	Running Speed	Travel Speed	HCM LOS
Powderhouse Rd	Driftwood Dr.	1576	32.0	0.0	32.0	33.6	33.6	A
Driftwood	Frontier Mall Dr	657	13.0	0.0	13.0	34.5	34.5	A
Frontier Mall Dr	Prairie Ave	1186	24.0	0.0	24.0	33.7	33.7	A
Prairie Ave	Rue Terre	826	14.0	0.0	14.0	40.2	40.2	A
Rue Terre	Wal-Mart Ent	865	19.0	0.0	19.0	31.0	31.0	A
Wal-Mart Ent	Converse Ave	1458	33.0	0.0	33.0	30.1	30.1	A
Converse Ave	Windmill Rd	1565	27.0	5.0	32.0	39.5	33.3	A
Windmill Rd	Ridge Rd.	3153	66.0	0.0	66.0	32.6	32.6	A
Ridge Rd.	College Ave	2009	43.0	0.0	43.0	31.9	31.9	A
Powderhouse Rd	College Ave	13295	271.0	5.0	276.0			
Total time (minutes)			4.5	0.1	4.6			

Run # 3
Dates of runs 02/09/00

Travel Time After Implementation

P.M. Dell Range Boulevard Westbound Traffic

From:	To:	Distance	Running Time	Delay Time	Travel Time	Running Speed	Travel Speed	HCM LOS
College Ave	Ridge Rd.	2009	34.0	0.0	34.0	40.3	40.3	A
Ridge Rd.	Windmill Rd	3153	55.0	0.0	55.0	39.1	39.1	A
Windmill Rd	Converse Ave	1565	39.0	0.0	39.0	27.4	27.4	B
Converse Ave	Wal-Mart Ent	1458	26.0	16.0	42.0	38.2	23.7	C
Wal-Mart Ent	Rue Terre	865	20.0	0.0	20.0	29.5	29.5	B
Rue Terre	Prairie Ave	826	18.0	0.0	18.0	31.3	31.3	A
Prairie Ave	Frontier Mall Dr	1186	27.0	17.0	44.0	29.9	18.4	C
Frontier Mall Dr	Driftwood	657	18.0	14.0	32.0	24.9	14.0	E
Driftwood	Powderhouse Rd	1576	31.0	0.0	31.0	34.7	34.7	A
College Ave	Driftwood	13295	268.0	47.0	315.0			
Total time (minutes)			4.5	0.8	5.3			

Run # 4
Dates of runs 02/09/00

Travel Time Run Results

Dell Range Boulevard

Travel Time After Implementation

P.M. Dell Range Boulevard Eastbound Traffic

From:	To:	Distance	Running Time	Delay Time	Travel Time	Running Speed	Travel Speed	HCM LOS
Powderhouse Rd	Driftwood	1576	32.0	0.0	32.0	33.6	33.6	A
Driftwood	Frontier Mall Dr	657	14.0	0.0	14.0	32.0	32.0	A
Frontier Mall Dr	Prairie Ave	1186	26.0	0.0	26.0	31.1	31.1	A
Prairie Ave	Rue Terre	826	21.0	0.0	21.0	26.8	26.8	B
Rue Terre	Wal-Mart Ent	865	32.0	0.0	32.0	18.4	18.4	C
Wal-Mart Ent	Converse Ave	1458	36.0	0.0	36.0	27.6	27.6	B
Converse Ave	Windmill Rd	1565	33.0	0.0	33.0	32.3	32.3	A
Windmill Rd	Ridge Rd.	3153	100.0	0.0	100.0	21.5	21.5	C
Ridge Rd.	College Ave	2009	38.0	0.0	38.0	36.0	36.0	A
Powderhouse Rd	College Ave	13295	332.0	0.0	332.0			
			5.5	0.0	5.5			

Run # 5
Dates of runs 02/09/00

Travel Time After Implementation

P.M. Dell Range Boulevard Westbound Traffic

From:	To:	Distance	Running Time	Delay Time	Travel Time	Running Speed	Travel Speed	HCM LOS
College Ave	Ridge Rd.	2009	41.0	0.0	41.0	33.4	33.4	A
Ridge Rd.	Windmill Rd	3153	54.0	0.0	54.0	39.8	39.8	A
Windmill Rd	Converse Ave	1565	27.0	0.0	27.0	39.5	39.5	A
Converse Ave	Wal-Mart Ent	1458	31.0	15.0	46.0	32.1	21.6	C
Wal-Mart Ent	Rue Terre	865	24.0	0.0	24.0	24.6	24.6	B
Rue Terre	Prairie Ave	826	17.0	0.0	17.0	33.1	33.1	A
Prairie Ave	Frontier Mall Dr	1186	20.0	7.0	27.0	40.4	29.9	B
Frontier Mall Dr	Driftwood	657	14.0	0.0	14.0	32.0	32.0	A
Driftwood	College Ave	1576	26.0	0.0	26.0	41.3	41.3	A
College Ave	College Ave	13295	254.0	22.0	276.0			
			4.2	0.4	4.6			

Run # 6
Dates of runs 02/09/00

Accident Reduction Benefit Summary

APPENDIX

Powderhouse Road Accident Reduction Benefit Summary					
	Total	**Rear End**	**Right Angle**	**Left-turn**	**Other**
Historical Accident Record (1996 – 1999)	13 PDO 3 Injuries	5 PDO 2 Injuries	1 PDO 1 Injury	6 PDO 0 Injury	1 PDO 0 Injury
Historical Accident Cost (1996 – 1999)	$39,000 PDO $42,000 Injury	$15,000 PDO $28,000 Injury	$3,000 PDO $14,000 Injury	$18,000 PDO $0 Injury	$3,000 PDO $0 Injury
Accident Reduction Percent		20% PDO 29% Injury	10% PDO 29% Injury	38% PDO 29% Injury	10% PDO 29% Injury
Accident Reduction Benefit	$10,440 PDO $12,180 Injury	$3,000 PDO $8,120 Injury	$300 PDO $4,060 Injury	$6,840 PDO $0 Injury	$300 PDO $0 Injury
$22,620 Total $5,655 Annual					

Powderhouse Road Benefit Cost Analysis Summary	
Total Improvement Cost	$20,000
Annual Improvement Cost (15-Year life amortized at 8%)	$2,337
Annual Accident Reduction Benefit	$5,655
Benefit / Cost Ratio	2.42

Driftwood Drive Accident Reduction Benefit Summary					
	Total	**Rear End**	**Right Angle**	**Left-turn**	**Other**
Historical Accident Record (1996 – 1999)	12 PDO 4 Injuries	7 PDO 1 Injury	2 PDO 1 Injury	3 PDO 2 Injuries	0 PDO 0 Injury
Historical Accident Cost 1996 – 1999)	$36,000 PDO $56,000 Injury	$21,000 PDO $14,000 Injury	$6,000 PDO $14,000 Injury	$9,000 PDO $28,000 Injury	$0 PDO $0 Injury
Accident Reduction Percent		20% PDO 29% Injury	10% PDO 29% Injury	38% PDO 29% Injury	10% PDO 29% Injury
Accident Reduction Benefit	$8,220 PDO $16,240 Injury	$4,200 PDO $4,060 Injury	$600 PDO $4,060 Injury	$3,420 PDO $8,120 Injury	$0 PDO $0 Injury
$24,460 Total $6,115 Annual					

Driftwood Drive Benefit Cost Analysis Summary	
Total Improvement Cost	$20,000
Annual Improvement Cost (15-Year life amortized at 8%)	$2,337
Annual Accident Reduction Benefit	$6,115
Benefit / Cost Ratio	2.62

Frontier Mall Drive Accident Reduction Benefit Summary					
	Total	**Rear End**	**Right Angle**	**Left-turn**	**Other**
Historical Accident Record (1996 – 1999)	20 PDO 2 Injuries	6 PDO 1 Injuries	4 PDO 0 Injury	7 PDO 1 Injury	3 PDO 0 Injury
Historical Accident Cost (1996 – 1999)	$60,000 PDO $28,000 Injury	$18,000 PDO $14,000 Injury	$12,000 PDO $0 Injury	$21,000 PDO $10,000 Injury	$18,000 PDO $0 Injury
Accident Reduction Percent		20% PDO 29% Injury	10% PDO 29% Injury	38% PDO 29% Injury	10% PDO 29% Injury
Accident Reduction Benefit	$14,580 PDO $8,120 Injury	$3,600 PDO $4,060 Injury	$1200 PDO $0 Injury	$7,980 PDO $4,060 Injury	$1,800 PDO $0 Injury
$22,700 Total $5,675 Annual					

Frontier Mall Drive Benefit Cost Analysis Summary	
Total Improvement Cost	$20,000
Annual Improvement Cost (15-Year life amortized at 8%)	$2,337
Annual Accident Reduction Benefit	$5,675
Benefit / Cost Ratio	2.43

Rue Terre Accident Reduction Benefit Summary					
	Total	**Rear End**	**Right Angle**	**Left-turn**	**Other**
Historical Accident Record (1996 – 1999)	27 PDO 8 Injuries	18 PDO 6 Injury	4 PDO 1 Injury	3 PDO 1 Injuries	2 PDO 0 Injury
Historical Accident Cost 1996 – 1999)	$81,000 PDO $112,000 Injury	$54,000 PDO $84,000 Injury	$12,000 PDO $14,000 Injury	$9,000 PDO $14,000 Injury	$6,000 PDO $0 Injury
Accident Reduction Percent		20% PDO 29% Injury	10% PDO 29% Injury	38% PDO 29% Injury	10% PDO 29% Injury
Accident Reduction Benefit	$16,020 PDO $32,480 Injury	$10,800 PDO $24,360 Injury	$1,200 PDO $4,060 Injury	$3,420 PDO $4,060 Injury	$600 PDO $0 Injury
$24,460 Total $6,115 Annual					

Rue Terre Benefit Cost Analysis Summary	
Total Improvement Cost	$20,000
Annual Improvement Cost (15-Year life amortized at 8%)	$2,337
Annual Accident Reduction Benefit	$12,125
Benefit / Cost Ratio	5.19

Windmill Road Accident Reduction Benefit Summary					
	Total	**Rear End**	**Right Angle**	**Left-turn**	**Other**
Historical Accident Record (1996 – 1999)	19 PDO 2 Injuries	9 PDO 1 Injury	2 PDO 1 Injury	7 PDO 0 Injury	1 PDO 0 Injury
Historical Accident Cost (1996 – 1999)	$57,000 PDO $28,000 Injury	$27,000 PDO $14,000 Injury	$6,000 PDO $14,000 Injury	$21,000 PDO $0 Injury	$3,000 PDO $0 Injury
Accident Reduction Percent		20% PDO 29% Injury	10% PDO 29% Injury	38% PDO 29% Injury	10% PDO 29% Injury
Accident Reduction Benefit	$14,280 PDO $8,120 Injury	$5,400 PDO $4,060 Injury	$600 PDO $4,060 Injury	$7,890 PDO $0 Injury	$300 PDO $0 Injury
$22,400 Total **$5,600 Annual**					

Windmill Road Benefit Cost Analysis Summary	
Total Improvement Cost	$20,000
Annual Improvement Cost (15-Year life amortized at 8%)	$2,337
Annual Accident Reduction Benefit	$5,600
Benefit / Cost Ratio	2.40

Ridge Road Accident Reduction Benefit Summary					
	Total	**Rear End**	**Right Angle**	**Left-turn**	**Other**
Historical Accident Record (1996 – 1999)	20 PDO 8 Injuries	8 PDO 3 Injuries	5 PDO 1 Injury	7 PDO 3 Injuries	0 PDO 1 Injury
Historical Accident Cost (1996 – 1999)	$60,000 PDO $112,000 Injury	$24,000 PDO $42,000 Injury	$15,000 PDO $14,000 Injury	$21,000 PDO $42,000 Injury	$0 PDO $14,000 Injury
Accident Reduction Percent		20% PDO 29% Injury	10% PDO 29% Injury	38% PDO 29% Injury	10% PDO 29% Injury
Accident Reduction Benefit	$14,280 PDO $32,480 Injury	$4,800 PDO $12,180 Injury	$1,500 PDO $4,060 Injury	$7,980 PDO $12,180 Injury	$0 PDO $4,060 Injury
$46,760 Total **$11,690 Annual**					

Ridge Road Benefit Cost Analysis Summary	
Total Improvement Cost	$20,000
Annual Improvement Cost (15-Year life amortized at 8%)	$2,337
Annual Accident Reduction Benefit	$11,690
Benefit / Cost Ratio	5.00

North College Avenue Accident Reduction Benefit Summary					
	Total	**Rear End**	**Right Angle**	**Left-turn**	**Other**
Historical Accident Record (1996 – 1999)	23 PDO 11 Injuries	14 PDO 5 Injuries	5 PDO 5 Injuries	2 PDO 1 Injury	2 PDO 0 Injury
Historical Accident Cost (1996 – 1999)	$69,000 PDO $154,000 Injury	$42,000 PDO $70,000 Injury	$15,000 PDO $70,000 Injury	$6,000 PDO $14,000 Injury	$6,000 PDO $0 Injury
Accident Reduction Percent		20% PDO 29% Injury	10% PDO 29% Injury	38% PDO 29% Injury	10% PDO 29% Injury
Accident Reduction Benefit	$12,780 PDO $44,660 Injury	$8,400 PDO $20,300 Injury	$1,500 PDO $20,300 Injury	$2,280 PDO $4,060 Injury	$600 PDO $0 Injury
$57,440 Total **$14,360 Annual**					

North College Avenue Benefit Cost Analysis Summary	
Total Improvement Cost	$20,000
Annual Improvement Cost (15-Year life amortized at 8%)	$2,337
Annual Accident Reduction Benefit	$14,360
Benefit / Cost Ratio	6.14

Prairie / Bluegrass Avenue Accident Reduction Benefit Summary					
	Total	**Rear End**	**Right Angle**	**Left-turn**	**Other**
Historical Accident Record (1996 – 1999)	31 PDO 6 Injuries	20 PDO 2 Injuries	6 PDO 2 Injuries	2 PDO 2 Injuries	3 PDO 0 Injury
Historical Accident Cost (1996 – 1999)	$93,000 PDO $84,000 Injury	$60,000 PDO $28,000 Injury	$18,000 PDO $28,000 Injury	$6,000 PDO $28,000 Injury	$9,000 PDO $0 Injury
Accident Reduction Percent		20% PDO 29% Injury	10% PDO 29% Injury	38% PDO 29% Injury	10% PDO 29% Injury
Accident Reduction Benefit	$16,980 PDO $24,360 Injury	$12,000 PDO $8,120 Injury	$1,800 PDO $8,120 Injury	$2,280 PDO $8,120 Injury	$900 PDO $0 Injury
$41,340 Total **$10,335 Annual**					

Prairie / Bluegrass Avenue Benefit Cost Analysis Summary	
Total Improvement Cost	$20,000
Annual Improvement Cost (15-Year life amortized at 8%)	$2,337
Annual Accident Reduction Benefit	$10,335
Benefit / Cost Ratio	4.42

Wal-Mart Entrance Accident Reduction Benefit Summary					
	Total	**Rear End**	**Right Angle**	**Left-turn**	**Other**
Historical Accident Record (1999)	10 PDO 1 Injury	6 PDO 0 Injury	3 PDO 0 Injury	1 PDO 1 Injury	0 PDO 0 Injury
Historical Accident Cost (1999)	$30,000 PDO $14,000 Injury	$18,000 PDO $0 Injury	$9,000 PDO $0 Injury	$3,000 PDO $14,000 Injury	$0 PDO $0 Injury
Accident Reduction Percent		20% PDO 29% Injury	10% PDO 29% Injury	38% PDO 29% Injury	10% PDO 29% Injury
Accident Reduction Benefit	$5,640 PDO $4,060 Injury	$3,600 PDO $0 Injury	$900 PDO $0 Injury	$1,140 PDO $4,060 Injury	$0 PDO $0 Injury
$22,400 Total $5,600 Annual					

Wal-Mart Entrance Benefit Cost Analysis Summary	
Total Improvement Cost	$20,000
Annual Improvement Cost (15-Year life amortized at 8%)	$2,337
Annual Accident Reduction Benefit	$9,700
Benefit / Cost Ratio	4.15

Converse Avenue Accident Reduction Benefit Summary					
	Total	**Rear End**	**Right Angle**	**Left-turn**	**Other**
Historical Accident Record (1996-1999)	87 PDO 28 Injuries	48 PDO 12 Injuries	6 PDO 3 Injuries	24 PDO 13 Injuries	9 PDO 0 Injuries
Historical Accident Cost (1996-1999)	$261,000 PDO $392.000Injury	$144,000 PDO $168,000 Injury	$18,000 PDO $42,000 Injury	$72,000 PDO $182,000 Injury	$27,000 PDO $0 Injury
Accident Reduction Percent		20 PDO 29 Injury	10 PDO 29 Injury	38 PDO 29 Injury	10 PDO 29 Injury
Accident Reduction Benefit	$60,660 PDO $113,680 Injury	$28,800 PDO $48,720 Injury	$1,800 PDO $12,180 Injury	$27,360 PDO $52,780 Injury	$2,700 PDO
$174,340 Total $43,505 Annual					

Converse Avenue Benefit Cost Analysis Summary	
Total Improvement Cost	$360,000
Annual Improvement Cost (15 year life amortized @ 8%	$42,059
Annual Accident Reduction Benefit	$43,585
Benefit/Cost ratio	1.04

Intersection Improvement Costs

Converse – Dell Range Intersection Improvements

Opinion of Probable Construction Cost (Year 2000)

Item	*Measurement Units*	*Quantity*	*Cost per Unit*	*Total*
Earthwork	Cubic Yards	2000	$15	$30,000
Retaining Wall	Square Feet	2800	$30	$84,000
Curb & Gutter	Linear Feet	750	$15	$11,250
Island Curb	Linear Feet	250	$15	$3,750
Island Surface	Square Yards	400	$40	$16,000
Pavement (12")	Tons	520	$40	$20,800
Bike Trail (8")	Tons	300	$40	$12,000
Signing & Marking	Lump Sum	1	$5,000	$5,000
Seeding	Lump Sum	1	$2,000	$2,000
Traffic Control	Lump Sum	1	$5,000	$5,000
Signal Modifications	Lump Sum	1	$50,000	$50,000
Mobilization	Lump Sum	1	$17,000	$17,000
Staking	Lump Sum	1	$6,000	$6,000
Drainage	Lump Sum	1	$15,000	$15,000
Sub-Total				$277,800
Contingency (30%)				$83,340
TOTAL				$361,140

Grandview to Converse Street Connection

1060 Linear Feet of Street, 38 Feet Wide

Opinion of Probable Construction Cost (Year 2000)

Item	*Measurement Units*	*Quantity*	*Cost per Unit*	*Total*
Earthwork	Cubic Yards	2240	$15	$33,600
Curb & Gutter	Linear Feet	2120	$15	$31,800
Pavement	Tons	2860	$40	$114,400
Inlets	Each	8	$3,000	$24,000
Storm Pipe	Linear Feet	1500	$50	$75,000
Mobilization	Lump Sum	1	$20,000	$20,000
Staking	Lump Sum	1	$6,000	$6,000
Sub-Total				$304,800
Contingency (30%)				$91.440
TOTAL				$396,240

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