

# ANEJO I. AFOROS

## E. ANEJO 1. AFOROS

### 7. Datos del aforo 01

**Duración de los Aforos:**

00:00 lunes, 13 de septiembre 2012 => 23:00 domingo, 19 de septiembre 2012

**Identificador:**

Vectio TN-01 (Tubo Neumático)

**Tipo de Datos:**

Sensores de Ejes - En Pares (Clase, Velocidad, Recuento)

**Clases Incluidas:**

1, 2, 3, 4, 5

**Esquema:**

Clasificación Vehicular (FHWA)

**Intervalo de Velocidades:**

10 - 200 km/h.

**Sentido de Circulación:**

1: A-B = Ascendente (Entrada a Castro Urdiales)

2: B-A = Descendente (Salida de Castro Urdiales)

**Separación:**

Todos - (Intervalo Vehicular)

**Unidades:**

Métrico (metro, kilómetro, m/s, km/h, kg, Tonelada Métrica (kg))

**Localización del aforador:**

Carretera de Santander

**Localización geográfica:**

N 43°23'26.80"

O 3°13'53.33"

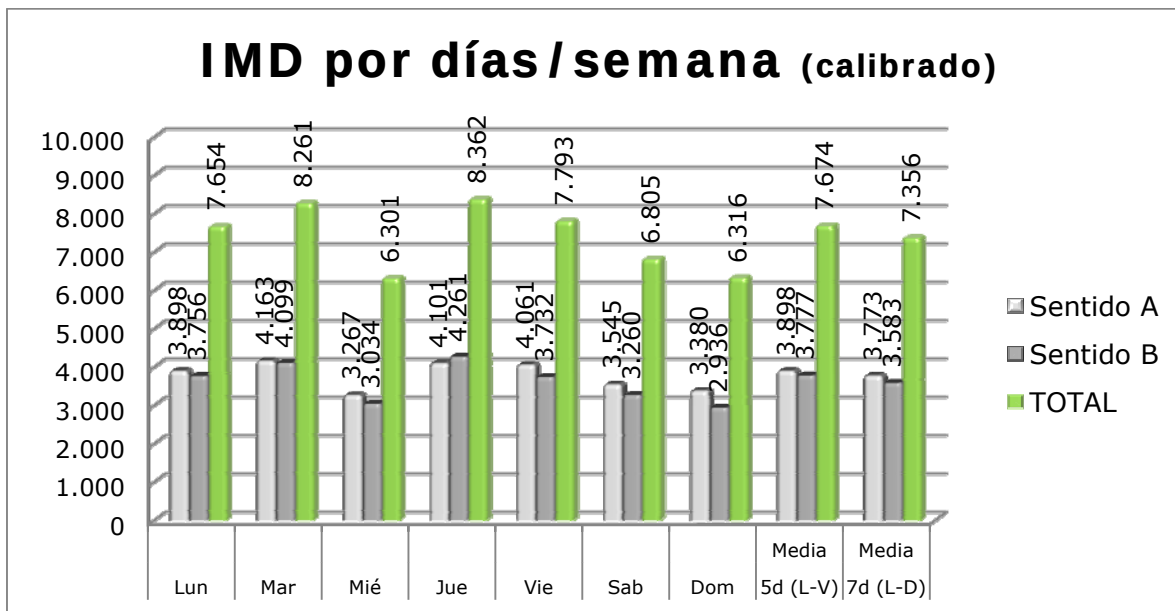
**Imagen**

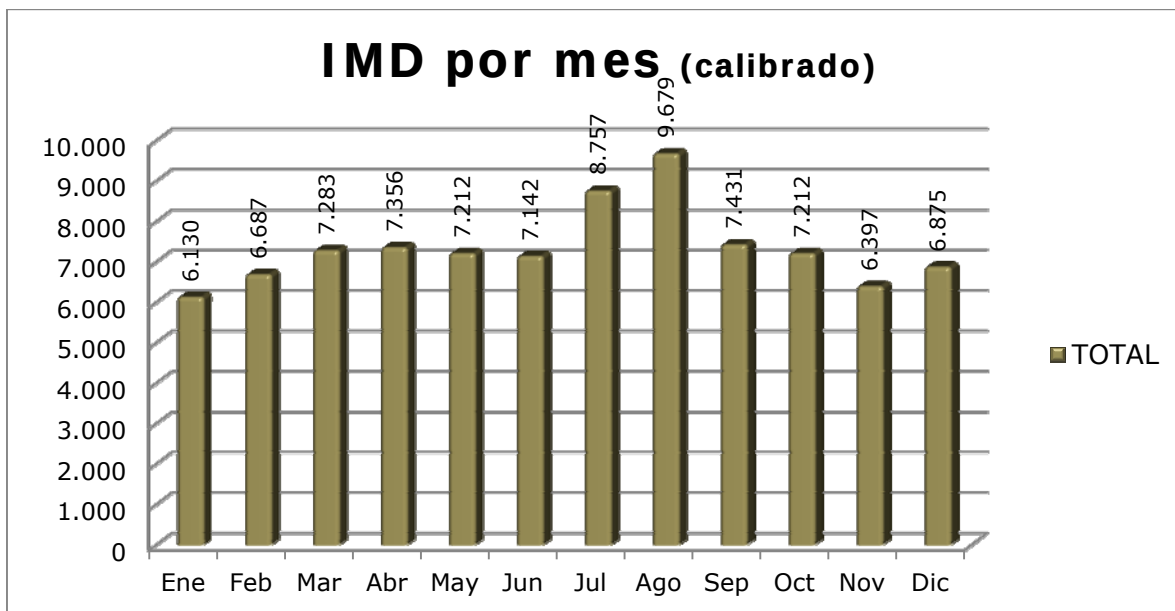


## 7.1. Volumen de vehículos – Total

|             | Lun        | Mar        | Mié        | Jue        | Vie        | Sab        | Dom        | 5d (L-V) | 7d (L-D) |
|-------------|------------|------------|------------|------------|------------|------------|------------|----------|----------|
|             | 08/13/2012 | 08/14/2012 | 08/15/2012 | 08/16/2012 | 08/17/2012 | 08/18/2012 | 08/19/2012 | Media    | Media    |
| 00:00       | 178        | 113        | 183        | 272        | 142        | 206        | 201        | 178      | 185      |
| 01:00       | 105        | 81         | 116        | 139        | 82         | 126        | 131        | 105      | 111      |
| 02:00       | 59         | 29         | 80         | 70         | 57         | 94         | 101        | 59       | 70       |
| 03:00       | 32         | 17         | 50         | 24         | 36         | 62         | 65         | 32       | 41       |
| 04:00       | 44         | 35         | 60         | 37         | 45         | 29         | 55         | 44       | 44       |
| 05:00       | 85         | 90         | 87         | 92         | 70         | 53         | 76         | 85       | 79       |
| 06:00       | 173        | 207        | 121        | 202        | 160        | 78         | 81         | 173      | 146      |
| 07:00       | 368        | 484        | 135        | 489        | 365        | 149        | 135        | 368      | 304      |
| 08:00       | 395        | 484        | 193        | 494        | 409        | 230        | 142        | 395      | 335      |
| 09:00       | 489        | 578        | 284        | 581        | 512        | 335        | 226        | 489      | 429      |
| 10:00       | 547        | 611        | 405        | 653        | 519        | 493        | 404        | 547      | 519      |
| 11:00       | 644        | 769        | 510        | 705        | 592        | 660        | 547        | 644      | 632      |
| 12:00       | 640        | 697        | 555        | 566        | 742        | 715        | 609        | 640      | 646      |
| 13:00       | 714        | 667        | 677        | 714        | 796        | 720        | 651        | 714      | 706      |
| 14:00       | 687        | 716        | 587        | 716        | 727        | 604        | 528        | 687      | 652      |
| 15:00       | 578        | 650        | 427        | 627        | 608        | 439        | 388        | 578      | 531      |
| 16:00       | 568        | 632        | 405        | 644        | 590        | 512        | 506        | 568      | 551      |
| 17:00       | 633        | 679        | 500        | 685        | 666        | 600        | 582        | 633      | 621      |
| 18:00       | 663        | 713        | 569        | 673        | 696        | 554        | 568        | 663      | 634      |
| 19:00       | 670        | 677        | 621        | 685        | 633        | 515        | 596        | 657      | 628      |
| 20:00       | 598        | 625        | 463        | 691        | 638        | 611        | 575        | 603      | 600      |
| 21:00       | 555        | 557        | 567        | 585        | 561        | 564        | 530        | 565      | 560      |
| 22:00       | 402        | 461        | 431        | 428        | 369        | 350        | 396        | 418      | 405      |
| 23:00       | 248        | 298        | 266        | 231        | 239        | 255        | 218        | 256      | 251      |
| 12h, 7-19   | 6.924      | 7.680      | 5.247      | 7.547      | 7.222      | 6.011      | 5.286      | 6.924    | 6.560    |
| 16h, 6-22   | 8.920      | 9.746      | 7.019      | 9.710      | 9.214      | 7.779      | 7.068      | 8.922    | 8.494    |
| 18h, 6-24   | 9.570      | 10.505     | 7.715      | 10.369     | 9.822      | 8.384      | 7.682      | 9.596    | 9.150    |
| 24h, 0-24   | 10.071     | 10.870     | 8.291      | 11.003     | 10.254     | 8.954      | 8.311      | 10.098   | 9.679    |
| AM          | 11:00      | 11:00      | 11:00      | 11:00      | 11:00      | 11:00      | 11:00      | 11:00    | 11:00    |
| Valor Punta | 644        | 769        | 510        | 705        | 592        | 660        | 547        | 644      | 632      |
| PM          | 13:00      | 14:00      | 13:00      | 14:00      | 13:00      | 13:00      | 13:00      | 13:00    | 13:00    |
| Valor Punta | 714        | 716        | 677        | 716        | 796        | 720        | 651        | 714      | 706      |

### 7.1.1. Gráficos de volumen de vehículos –Total

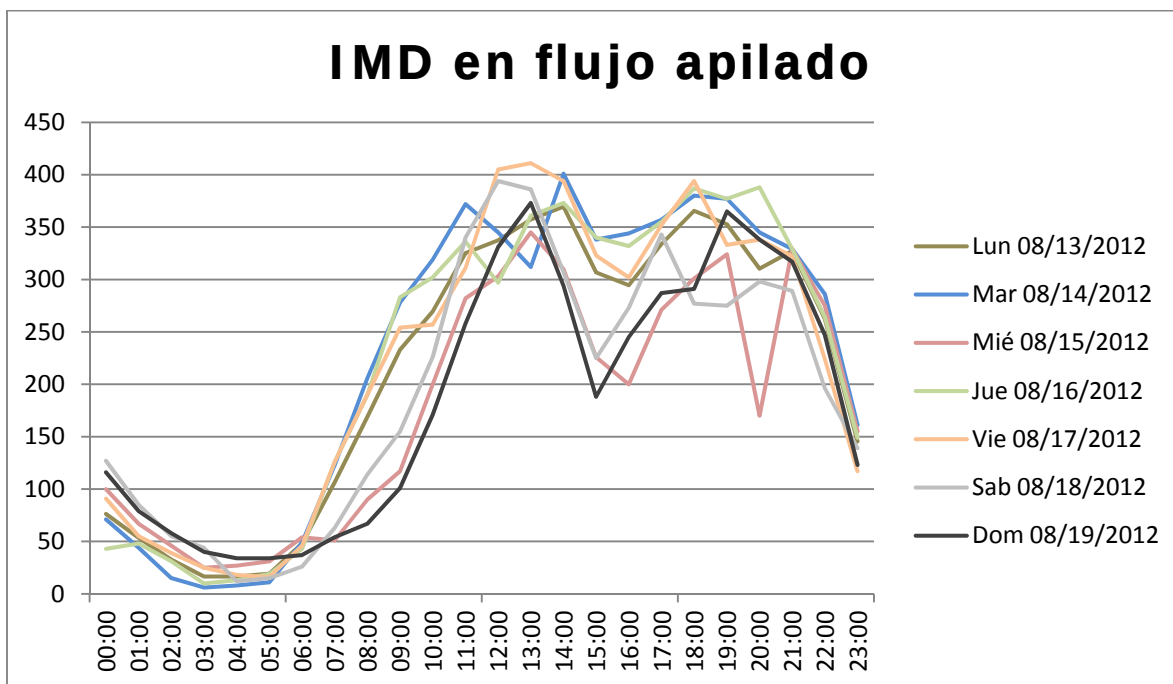
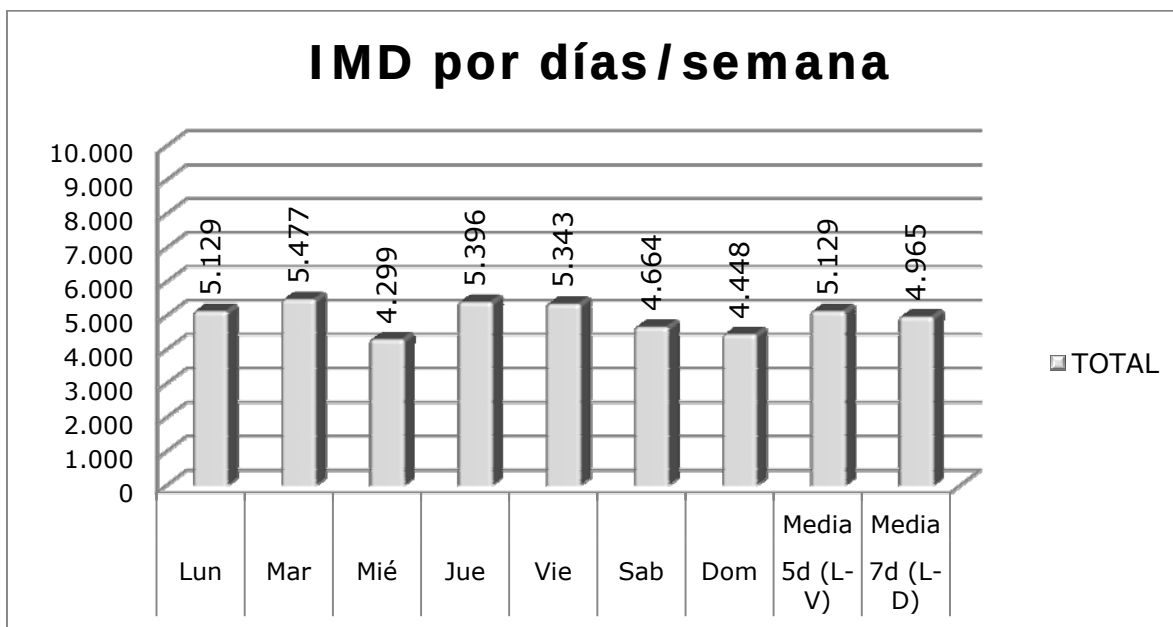




## 7.2. Volumen de vehículos – Sentido A

|             | Lun        | Mar        | Mié        | Jue        | Vie        | Sab        | Dom        | 5d (L-V) | 7d (L-D) |
|-------------|------------|------------|------------|------------|------------|------------|------------|----------|----------|
|             | 08/13/2012 | 08/14/2012 | 08/15/2012 | 08/16/2012 | 08/17/2012 | 08/18/2012 | 08/19/2012 | Media    | Media    |
| 00:00       | 76         | 71         | 100        | 43         | 91         | 127        | 116        | 76       | 89       |
| 01:00       | 54         | 44         | 67         | 48         | 55         | 85         | 79         | 54       | 62       |
| 02:00       | 33         | 15         | 46         | 31         | 39         | 55         | 58         | 33       | 40       |
| 03:00       | 17         | 6          | 25         | 10         | 25         | 44         | 40         | 17       | 24       |
| 04:00       | 17         | 8          | 27         | 13         | 18         | 12         | 34         | 17       | 18       |
| 05:00       | 19         | 11         | 31         | 19         | 16         | 15         | 34         | 19       | 21       |
| 06:00       | 48         | 49         | 54         | 43         | 46         | 26         | 37         | 48       | 43       |
| 07:00       | 107        | 123        | 51         | 126        | 126        | 63         | 54         | 107      | 93       |
| 08:00       | 169        | 206        | 90         | 190        | 190        | 114        | 67         | 169      | 147      |
| 09:00       | 233        | 278        | 117        | 283        | 254        | 155        | 101        | 233      | 203      |
| 10:00       | 270        | 319        | 200        | 302        | 257        | 226        | 171        | 270      | 249      |
| 11:00       | 325        | 372        | 282        | 336        | 311        | 340        | 258        | 325      | 318      |
| 12:00       | 338        | 345        | 303        | 297        | 405        | 394        | 331        | 338      | 345      |
| 13:00       | 357        | 312        | 345        | 361        | 411        | 386        | 373        | 357      | 364      |
| 14:00       | 370        | 401        | 310        | 373        | 394        | 307        | 294        | 370      | 350      |
| 15:00       | 307        | 338        | 226        | 340        | 323        | 225        | 188        | 307      | 278      |
| 16:00       | 295        | 344        | 200        | 332        | 302        | 273        | 245        | 295      | 284      |
| 17:00       | 334        | 357        | 271        | 355        | 352        | 343        | 287        | 334      | 328      |
| 18:00       | 366        | 380        | 301        | 387        | 394        | 277        | 291        | 366      | 342      |
| 19:00       | 353        | 377        | 324        | 377        | 333        | 275        | 365        | 353      | 343      |
| 20:00       | 310        | 345        | 170        | 388        | 338        | 298        | 338        | 310      | 312      |
| 21:00       | 327        | 329        | 329        | 329        | 322        | 289        | 317        | 327      | 320      |
| 22:00       | 262        | 286        | 275        | 264        | 224        | 196        | 247        | 262      | 251      |
| 23:00       | 146        | 161        | 155        | 149        | 117        | 139        | 123        | 146      | 141      |
| 12h, 7-19   | 3.468      | 3.775      | 2.696      | 3.682      | 3.719      | 3.103      | 2.660      | 3.468    | 3.300    |
| 16h, 6-22   | 4.506      | 4.875      | 3.573      | 4.819      | 4.758      | 3.991      | 3.717      | 4.506    | 4.320    |
| 18h, 6-24   | 4.914      | 5.322      | 4.003      | 5.232      | 5.099      | 4.326      | 4.087      | 4.914    | 4.712    |
| 24h, 0-24   | 5.129      | 5.477      | 4.299      | 5.396      | 5.343      | 4.664      | 4.448      | 5.129    | 4.965    |
| AM          | 11:00      | 11:00      | 11:00      | 11:00      | 11:00      | 11:00      | 11:00      | 11:00    | 11:00    |
| Valor Punta | 325        | 372        | 282        | 336        | 311        | 340        | 258        | 325      | 318      |
| PM          | 14:00      | 14:00      | 13:00      | 20:00      | 13:00      | 12:00      | 13:00      | 14:00    | 13:00    |
| Valor Punta | 370        | 401        | 345        | 388        | 411        | 394        | 373        | 370      | 364      |

### 7.2.1. Gráficos de volumen de vehículos –Sentido A

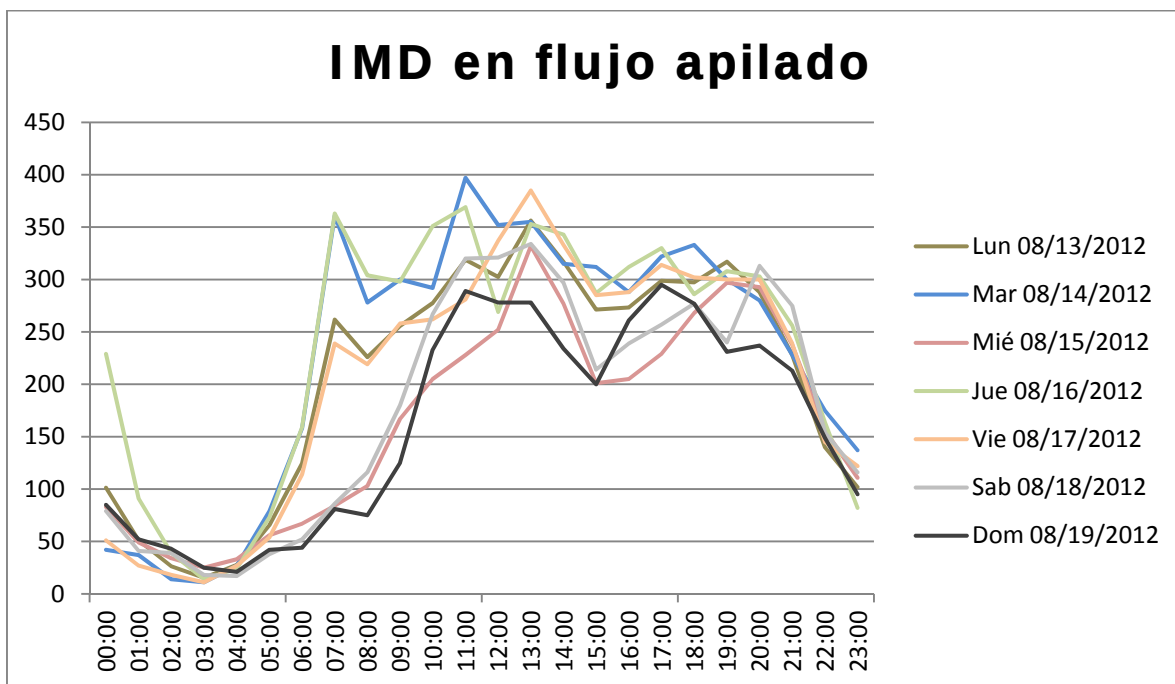
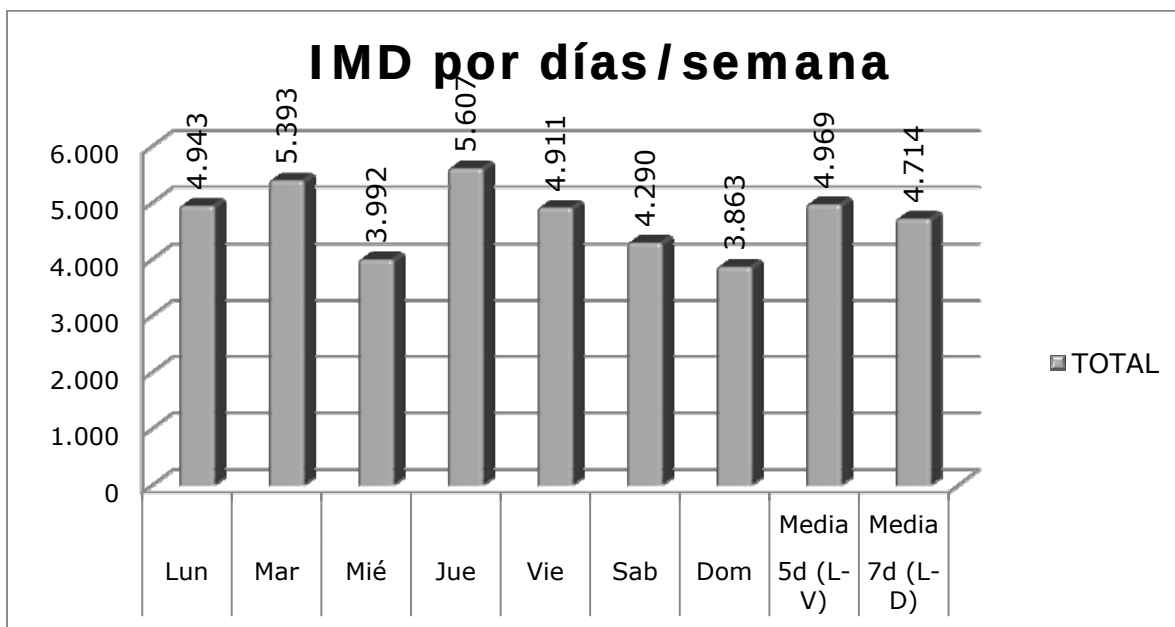


### 7.3. Volumen de vehículos – Sentido B

|             | Lun        | Mar        | Mié        | Jue        | Vie        | Sab        | Dom        | 5d (L-V) | 7d (L-D) |
|-------------|------------|------------|------------|------------|------------|------------|------------|----------|----------|
|             | 08/13/2012 | 08/14/2012 | 08/15/2012 | 08/16/2012 | 08/17/2012 | 08/18/2012 | 08/19/2012 | Media    | Media    |
| 00:00       | 101        | 42         | 83         | 229        | 51         | 79         | 85         | 101      | 96       |
| 01:00       | 51         | 37         | 49         | 91         | 27         | 41         | 52         | 51       | 50       |
| 02:00       | 26         | 14         | 34         | 39         | 18         | 39         | 43         | 26       | 30       |
| 03:00       | 15         | 11         | 25         | 14         | 11         | 18         | 25         | 15       | 17       |
| 04:00       | 28         | 27         | 33         | 24         | 27         | 17         | 21         | 28       | 25       |
| 05:00       | 66         | 79         | 56         | 73         | 54         | 38         | 42         | 66       | 58       |
| 06:00       | 125        | 158        | 67         | 159        | 114        | 52         | 44         | 125      | 103      |
| 07:00       | 262        | 361        | 84         | 363        | 239        | 86         | 81         | 262      | 211      |
| 08:00       | 226        | 278        | 103        | 304        | 219        | 116        | 75         | 226      | 189      |
| 09:00       | 256        | 300        | 167        | 298        | 258        | 180        | 125        | 256      | 226      |
| 10:00       | 278        | 292        | 205        | 351        | 262        | 267        | 233        | 278      | 270      |
| 11:00       | 319        | 397        | 228        | 369        | 281        | 320        | 289        | 319      | 315      |
| 12:00       | 303        | 352        | 252        | 269        | 337        | 321        | 278        | 303      | 302      |
| 13:00       | 356        | 355        | 332        | 353        | 385        | 334        | 278        | 356      | 342      |
| 14:00       | 317        | 315        | 277        | 343        | 333        | 297        | 234        | 317      | 302      |
| 15:00       | 271        | 312        | 201        | 287        | 285        | 214        | 200        | 271      | 253      |
| 16:00       | 273        | 288        | 205        | 312        | 288        | 239        | 261        | 273      | 267      |
| 17:00       | 299        | 322        | 229        | 330        | 314        | 257        | 295        | 299      | 292      |
| 18:00       | 297        | 333        | 268        | 286        | 302        | 277        | 277        | 297      | 291      |
| 19:00       | 317        | 300        | 297        | 308        | 300        | 240        | 231        | 304      | 285      |
| 20:00       | 288        | 280        | 293        | 303        | 300        | 313        | 237        | 293      | 288      |
| 21:00       | 228        | 228        | 238        | 256        | 239        | 275        | 213        | 238      | 240      |
| 22:00       | 140        | 175        | 156        | 164        | 145        | 154        | 149        | 156      | 155      |
| 23:00       | 102        | 137        | 111        | 82         | 122        | 116        | 95         | 111      | 109      |
| 12h, 7-19   | 3.456      | 3.905      | 2.551      | 3.865      | 3.503      | 2.908      | 2.626      | 3.456    | 3.259    |
| 16h, 6-22   | 4.414      | 4.871      | 3.446      | 4.891      | 4.456      | 3.788      | 3.351      | 4.415    | 4.174    |
| 18h, 6-24   | 4.656      | 5.183      | 3.712      | 5.137      | 4.723      | 4.058      | 3.595      | 4.682    | 4.438    |
| 24h, 0-24   | 4.943      | 5.393      | 3.992      | 5.607      | 4.911      | 4.290      | 3.863      | 4.969    | 4.714    |
| AM          | 11:00      | 11:00      | 11:00      | 11:00      | 11:00      | 11:00      | 11:00      | 11:00    | 11:00    |
| Valor Punta | 319        | 397        | 228        | 369        | 281        | 320        | 289        | 319      | 315      |
| PM          | 13:00      | 13:00      | 13:00      | 13:00      | 13:00      | 13:00      | 17:00      | 13:00    | 13:00    |
| Valor Punta | 356        | 355        | 332        | 353        | 385        | 334        | 295        | 356      | 342      |



### 7.3.1. Gráficos de volumen de vehículos –Sentido B



## 7.4. Clases de vehículos

### 7.4.1. Esquema de clasificación FHWA

| Ejes     | Grupos | Descripción                                     | Clase | Parámetros                                                                                               | Vehículo Dominante                                                                                                                                                         | Conjunto   |
|----------|--------|-------------------------------------------------|-------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 2        | 1      | Bicicleta o Moto                                | 1     | $d(1) < 1.7\text{m}$ & Ejes=2                                                                            |                                                                                         | 1 (Ligero) |
| 2, 3 o 4 | 1 o 2  | Turismo, Furgoneta ligera                       | 2     | $d(1) \geq 1.7\text{m}$ ,<br>$d(1) \leq 3.2\text{m}$ & Ejes=2                                            | <br> |            |
| 2, 3 o 4 | 1      | Caravana, Remolque, etc. Pick-ups y furgonetas. | 3     | grupos=3, $d(1) \geq 2.1\text{m}$ ,<br>$d(1) \leq 3.2\text{m}$ ,<br>$d(2) \geq 2.1\text{m}$ & Ejes=3,4,5 |                                                                                         |            |
| 2 o 3    | 1      | Bus                                             | 5     | $d(1) > 3.2\text{m}$ & Ejes=2                                                                            |                                                                                         | 2 (Medio)  |
| 2        | 1      | Camión rígido de dos ejes                       | 3     | Ejes=2 & grupos=1                                                                                        |                                                                                       |            |
| 3        | 1      | Camión rígido de tres ejes                      | 4     | Ejes>3 & grupos=2                                                                                        |                                                                                       |            |
| 4        | 1      | Camión articulado rígido de tres ejes           | 4     | $d(1) > 3.2\text{m}$ , Ejes=3 & grupos=4                                                                 |                                                                                       | 3 (Pesado) |
| 2 o 4    | 2      | Camión articulado rígido de cuatro ejes         | 5     | $d(2) < 2.1\text{m}$ o $d(1) < 2.1\text{m}$<br>o $d(1) > 3.2\text{m}$<br>Ejes = 4 & grupos>2             |                                                                                       |            |
| 5 o 6    | 2      | Camión articulado rígido de cinco ejes          | 5     | $d(2) < 2.1\text{m}$ o $d(1) < 2.1\text{m}$<br>o $d(1) > 3.2\text{m}$<br>Ejes=5 & grupos>2               |                                                                                       |            |
| 6 o 7    | 2      | Camión articulado rígido de seis ejes (o más)   | 5     | Ejes=6 & grupos>2 o<br>Ejes>6 & grupos=3                                                                 |                                                                                       |            |
| 5        | 3      | Camion con remolque                             | 5     | grupos=4 & Ejes>6                                                                                        |                                                                                       |            |
| 6        | 3      | Camion con remolque                             | 5     | grupos>=5 & Ejes>6                                                                                       |                                                                                       |            |
| 7        | >3     | Camión con remolque                             | 5     |                                                                                                          |                                                                                       |            |

Clase para vehículos inclasificables: 13

## 7.4.2. Clases de vehículos absolutos

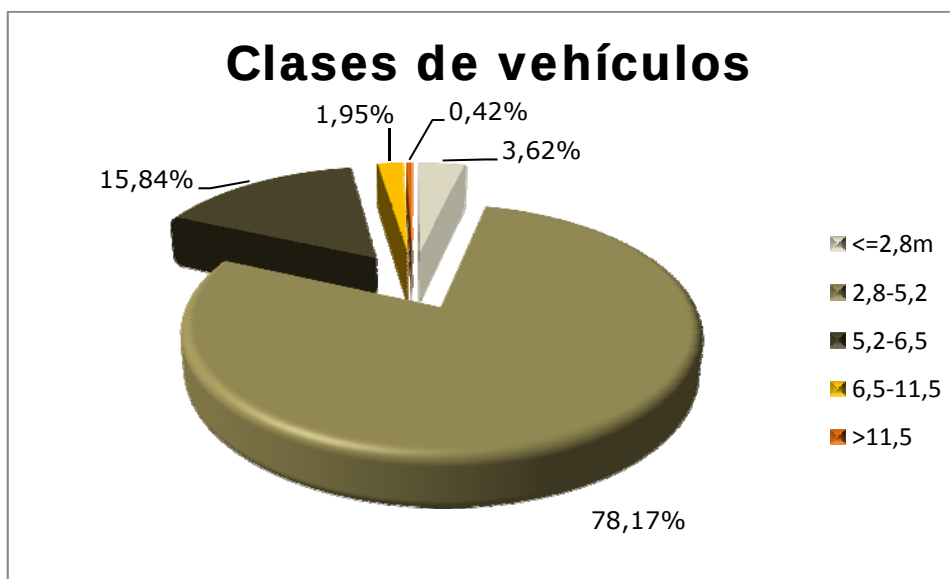
|             | Total | Bin 1  | Bin 2   | Bin 3   | Bin 4    | Bin 5 |
|-------------|-------|--------|---------|---------|----------|-------|
|             | Vol.  | <=2,8m | 2,8-5,2 | 5,2-6,5 | 6,5-11,5 | >11,5 |
| 00:00       | 185   | 7      | 128     | 44      | 2        | 5     |
| 01:00       | 111   | 3      | 85      | 23      | 0        | 0     |
| 02:00       | 70    | 2      | 46      | 22      | 0        | 0     |
| 03:00       | 41    | 2      | 29      | 10      | 0        | 0     |
| 04:00       | 44    | 0      | 34      | 9       | 1        | 0     |
| 05:00       | 79    | 1      | 71      | 6       | 0        | 1     |
| 06:00       | 146   | 3      | 121     | 18      | 0        | 4     |
| 07:00       | 304   | 6      | 273     | 20      | 4        | 0     |
| 08:00       | 335   | 6      | 268     | 58      | 3        | 0     |
| 09:00       | 429   | 9      | 342     | 68      | 9        | 1     |
| 10:00       | 519   | 19     | 398     | 94      | 7        | 1     |
| 11:00       | 632   | 25     | 493     | 102     | 12       | 2     |
| 12:00       | 646   | 30     | 493     | 107     | 15       | 2     |
| 13:00       | 706   | 32     | 566     | 89      | 18       | 1     |
| 14:00       | 652   | 24     | 497     | 123     | 8        | 0     |
| 15:00       | 531   | 16     | 423     | 83      | 9        | 0     |
| 16:00       | 551   | 22     | 429     | 85      | 12       | 3     |
| 17:00       | 621   | 30     | 485     | 91      | 13       | 1     |
| 18:00       | 634   | 32     | 495     | 90      | 17       | 0     |
| 19:00       | 628   | 28     | 497     | 86      | 14       | 3     |
| 20:00       | 600   | 21     | 488     | 73      | 15       | 3     |
| 21:00       | 560   | 15     | 425     | 102     | 17       | 1     |
| 22:00       | 405   | 11     | 300     | 77      | 11       | 7     |
| 23:00       | 251   | 8      | 180     | 52      | 3        | 8     |
| Totales     |       |        |         |         |          |       |
| 12H,7-19    | 6.560 | 249    | 5.163   | 1.011   | 126      | 10    |
| 16H,6-22    | 8.494 | 316    | 6.695   | 1.290   | 173      | 20    |
| 18H,6-24    | 9.150 | 335    | 7.174   | 1.420   | 186      | 34    |
| 24H,0-24    | 9.679 | 350    | 7.567   | 1.534   | 189      | 40    |
| AM          | 11:00 | 11:00  | 11:00   | 11:00   | 11:00    | 11:00 |
| Valor Punta | 632   | 25     | 493     | 102     | 12       | 5     |

### 7.4.3. Clases de vehículos porcentuales

|       | Total | Bin 1  | Bin 2   | Bin 3   | Bin 4    | Bin 5 |
|-------|-------|--------|---------|---------|----------|-------|
|       | Vol.  | <=2,8m | 2,8-5,2 | 5,2-6,5 | 6,5-11,5 | >11,5 |
| 00:00 | 185   | 3,54%  | 69,03%  | 23,89%  | 0,88%    | 2,65% |
| 01:00 | 111   | 2,47%  | 76,54%  | 20,99%  | 0,00%    | 0,00% |
| 02:00 | 70    | 3,45%  | 65,52%  | 31,03%  | 0,00%    | 0,00% |
| 03:00 | 41    | 5,88%  | 70,59%  | 23,53%  | 0,00%    | 0,00% |
| 04:00 | 44    | 0,00%  | 77,14%  | 20,00%  | 2,86%    | 0,00% |
| 05:00 | 79    | 1,11%  | 90,00%  | 7,78%   | 0,00%    | 1,11% |
| 06:00 | 146   | 1,93%  | 83,09%  | 12,56%  | 0,00%    | 2,42% |
| 07:00 | 304   | 2,07%  | 89,88%  | 6,61%   | 1,45%    | 0,00% |
| 08:00 | 335   | 1,86%  | 79,96%  | 17,36%  | 0,83%    | 0,00% |
| 09:00 | 429   | 2,08%  | 79,76%  | 15,92%  | 2,08%    | 0,17% |
| 10:00 | 519   | 3,60%  | 76,76%  | 18,17%  | 1,31%    | 0,16% |
| 11:00 | 632   | 3,90%  | 77,89%  | 16,12%  | 1,82%    | 0,26% |
| 12:00 | 646   | 4,59%  | 76,33%  | 16,50%  | 2,30%    | 0,29% |
| 13:00 | 706   | 4,50%  | 80,21%  | 12,59%  | 2,55%    | 0,15% |
| 14:00 | 652   | 3,63%  | 76,26%  | 18,85%  | 1,26%    | 0,00% |
| 15:00 | 531   | 2,92%  | 79,69%  | 15,69%  | 1,69%    | 0,00% |
| 16:00 | 551   | 3,96%  | 77,85%  | 15,51%  | 2,22%    | 0,47% |
| 17:00 | 621   | 4,86%  | 78,20%  | 14,73%  | 2,06%    | 0,15% |
| 18:00 | 634   | 5,05%  | 78,12%  | 14,17%  | 2,66%    | 0,00% |
| 19:00 | 628   | 4,43%  | 79,17%  | 13,74%  | 2,22%    | 0,44% |
| 20:00 | 600   | 3,52%  | 81,28%  | 12,16%  | 2,56%    | 0,48% |
| 21:00 | 560   | 2,69%  | 75,94%  | 18,13%  | 3,05%    | 0,18% |
| 22:00 | 405   | 2,60%  | 73,97%  | 19,09%  | 2,60%    | 1,74% |
| 23:00 | 251   | 3,36%  | 71,81%  | 20,81%  | 1,01%    | 3,02% |

|          |       |         |        |        |         |       |
|----------|-------|---------|--------|--------|---------|-------|
| Totals   |       |         |        |        |         |       |
| 12H,7-19 | 6.560 | 3,80%   | 78,71% | 15,42% | 1,92%   | 0,15% |
| 16H,6-22 | 8.494 | 3,72%   | 78,82% | 15,19% | 2,03%   | 0,23% |
| 18H,6-24 | 9.150 | 3,66%   | 78,41% | 15,52% | 2,03%   | 0,38% |
| 24H,0-24 | 9.679 | 3,62%   | 78,17% | 15,84% | 1,95%   | 0,42% |
|          |       | Ligeros |        |        | Pesados |       |
| Am       | 11:00 | 11:00   | 11:00  | 11:00  | 11:00   | 11:00 |
| Peak     | 632   | 25      | 493    | 102    | 12      | 5     |

#### 7.4.4. Gráficos de clases de vehículos



## 7.5. Velocidades

|             | Total | 85th | Mean | Std. | Bin 1 | Bin 2 | Bin 3  | Bin 4  | Bin 5  | Bin 6  | Bin 7  | Bin 8  | Bin 9  | Bin 10 | Bin 11 | Bin 12 | Bin 13 |
|-------------|-------|------|------|------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|             | Vol.  | %ile | Ave. | Dev. | <6Kph | 6-<11 | 11-<16 | 16-<21 | 21-<26 | 26-<31 | 31-<36 | 36-<41 | 41-<46 | 46-<51 | 51-<56 | 56-<61 | ≥61    |
| 00:00       | 185   | 51,6 | 41,8 | 9,5  | 0     | 0     | 2      | 0      | 5      | 11     | 29     | 47     | 31     | 28     | 20     | 5      | 7      |
| 01:00       | 111   | 54,5 | 45,8 | 8,5  | 0     | 0     | 0      | 0      | 0      | 3      | 4      | 30     | 25     | 23     | 12     | 4      | 10     |
| 02:00       | 70    | 54,2 | 45,1 | 8,5  | 0     | 0     | 0      | 0      | 0      | 0      | 12     | 10     | 22     | 7      | 12     | 5      | 2      |
| 03:00       | 41    | 50,3 | 46,4 | 6,5  | 0     | 0     | 0      | 0      | 0      | 0      | 2      | 2      | 14     | 17     | 2      | 0      | 2      |
| 04:00       | 44    | 57,3 | 45,8 | 9,0  | 0     | 0     | 0      | 0      | 0      | 0      | 4      | 14     | 7      | 7      | 2      | 6      | 2      |
| 05:00       | 79    | 51,0 | 43,6 | 8,6  | 0     | 0     | 1      | 0      | 0      | 4      | 5      | 18     | 24     | 14     | 5      | 4      | 3      |
| 06:00       | 146   | 50,4 | 42,8 | 7,9  | 0     | 0     | 0      | 0      | 1      | 6      | 15     | 44     | 38     | 23     | 12     | 3      | 5      |
| 07:00       | 304   | 47,1 | 39,8 | 7,0  | 0     | 0     | 0      | 0      | 3      | 16     | 78     | 89     | 63     | 36     | 12     | 5      | 1      |
| 08:00       | 335   | 48,1 | 40,7 | 7,4  | 0     | 0     | 0      | 0      | 1      | 18     | 73     | 98     | 78     | 39     | 15     | 8      | 5      |
| 09:00       | 429   | 49,5 | 41,7 | 7,8  | 0     | 0     | 0      | 1      | 4      | 19     | 70     | 123    | 101    | 69     | 23     | 13     | 8      |
| 10:00       | 519   | 49,3 | 41,5 | 7,6  | 0     | 0     | 0      | 2      | 6      | 18     | 86     | 159    | 111    | 91     | 26     | 14     | 7      |
| 11:00       | 632   | 46,1 | 39,4 | 7,1  | 0     | 0     | 0      | 4      | 4      | 43     | 153    | 192    | 140    | 67     | 18     | 5      | 7      |
| 12:00       | 646   | 48,8 | 40,5 | 7,7  | 0     | 0     | 0      | 0      | 6      | 40     | 147    | 190    | 119    | 83     | 40     | 15     | 6      |
| 13:00       | 706   | 47,0 | 39,6 | 7,3  | 0     | 0     | 0      | 2      | 2      | 57     | 166    | 216    | 140    | 80     | 26     | 7      | 8      |
| 14:00       | 652   | 49,7 | 41,4 | 7,9  | 0     | 0     | 0      | 1      | 4      | 42     | 124    | 158    | 158    | 91     | 48     | 16     | 10     |
| 15:00       | 531   | 49,8 | 41,5 | 7,4  | 0     | 0     | 0      | 1      | 2      | 18     | 108    | 147    | 118    | 76     | 48     | 10     | 4      |
| 16:00       | 551   | 49,5 | 40,8 | 8,2  | 0     | 0     | 0      | 0      | 8      | 29     | 127    | 155    | 99     | 71     | 37     | 12     | 13     |
| 17:00       | 621   | 47,5 | 39,9 | 7,3  | 0     | 0     | 0      | 2      | 3      | 48     | 136    | 182    | 133    | 83     | 22     | 5      | 7      |
| 18:00       | 634   | 46,0 | 38,7 | 7,4  | 0     | 0     | 1      | 3      | 14     | 53     | 171    | 172    | 124    | 63     | 25     | 4      | 4      |
| 19:00       | 628   | 44,6 | 38,1 | 6,7  | 0     | 0     | 0      | 3      | 12     | 50     | 178    | 215    | 103    | 44     | 15     | 6      | 2      |
| 20:00       | 600   | 44,0 | 37,3 | 6,4  | 0     | 0     | 0      | 3      | 10     | 69     | 182    | 192    | 89     | 43     | 10     | 2      | 0      |
| 21:00       | 560   | 46,5 | 39,6 | 7,3  | 0     | 0     | 0      | 1      | 9      | 24     | 146    | 183    | 108    | 50     | 23     | 8      | 8      |
| 22:00       | 405   | 48,7 | 40,7 | 8,4  | 0     | 1     | 2      | 4      | 5      | 21     | 74     | 112    | 98     | 53     | 17     | 14     | 6      |
| 23:00       | 251   | 51,4 | 42,2 | 8,8  | 0     | 0     | 1      | 1      | 3      | 13     | 43     | 64     | 50     | 38     | 21     | 12     | 7      |
| Totales     |       |      |      |      |       |       |        |        |        |        |        |        |        |        |        |        |        |
| 12H,7-19    | 6560  | 49,8 | 41,7 | 8,2  | 0     | 0     | 1      | 15     | 55     | 400    | 1439   | 1880   | 1384   | 850    | 340    | 114    | 82     |
| 16H,6-22    | 8494  | 49,8 | 41,7 | 8,2  | 0     | 0     | 1      | 22     | 87     | 549    | 1960   | 2514   | 1721   | 1010   | 400    | 133    | 96     |
| 18H,6-24    | 9150  | 49,8 | 41,7 | 8,2  | 0     | 1     | 3      | 26     | 95     | 583    | 2077   | 2690   | 1869   | 1101   | 437    | 159    | 109    |
| 24H,0-24    | 9679  | 49,8 | 41,5 | 8,2  | 0     | 1     | 6      | 26     | 100    | 601    | 2134   | 2812   | 1992   | 1197   | 492    | 184    | 135    |
| AM          |       |      |      |      |       |       |        |        |        |        |        |        |        |        |        |        |        |
| Valor Punta | 632   | 57,3 | 46,4 | 9,5  | 0     | 0     | 2      | 4      | 6      | 43     | 153    | 192    | 140    | 91     | 26     | 14     | 10     |
| PM          |       |      |      |      |       |       |        |        |        |        |        |        |        |        |        |        |        |
| Valor Punta | 706   | 51,4 | 42,2 | 8,8  | 0     | 1     | 2      | 4      | 14     | 69     | 182    | 216    | 158    | 91     | 48     | 16     | 13     |

## 8. Datos del aforo 02

**Duración de los Aforos:**

00:00 lunes, 13 de septiembre 2012 => 23:00 domingo, 19 de septiembre 2012

**Identificador:**

Vectio TN-02 (Tubo Neumático)

**Tipo de Datos:**

Sensores de Ejes - En Pares (Clase, Velocidad, Recuento)

**Clases Incluidas:**

1, 2, 3, 4, 5

**Esquema:**

Clasificación Vehicular (FHWA)

**Intervalo de Velocidades:**

10 - 200 km/h.

**Sentido de Circulación:**

1: A-B = Ascendente (Salida de Castro Urdiales)

2: B-A = Descendente (Entrada a Castro Urdiales)

**Separación:**

Todos - (Intervalo Vehicular)

**Unidades:**

Métrico (metro, kilómetro, m/s, km/h, kg, Tonelada Métrica (kg))

**Localización del aforador:**

N-634 (Paseo Paraíso)

**Localización geográfica:**

N 43°22'08.34"

O 3°12'07.06"

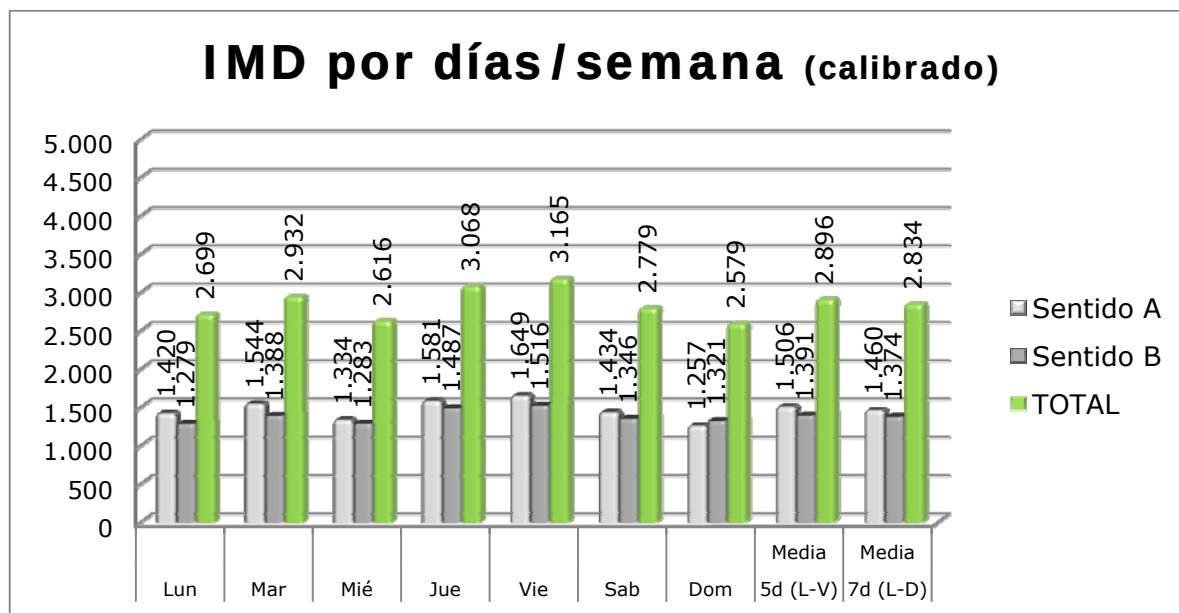
**Imagen**

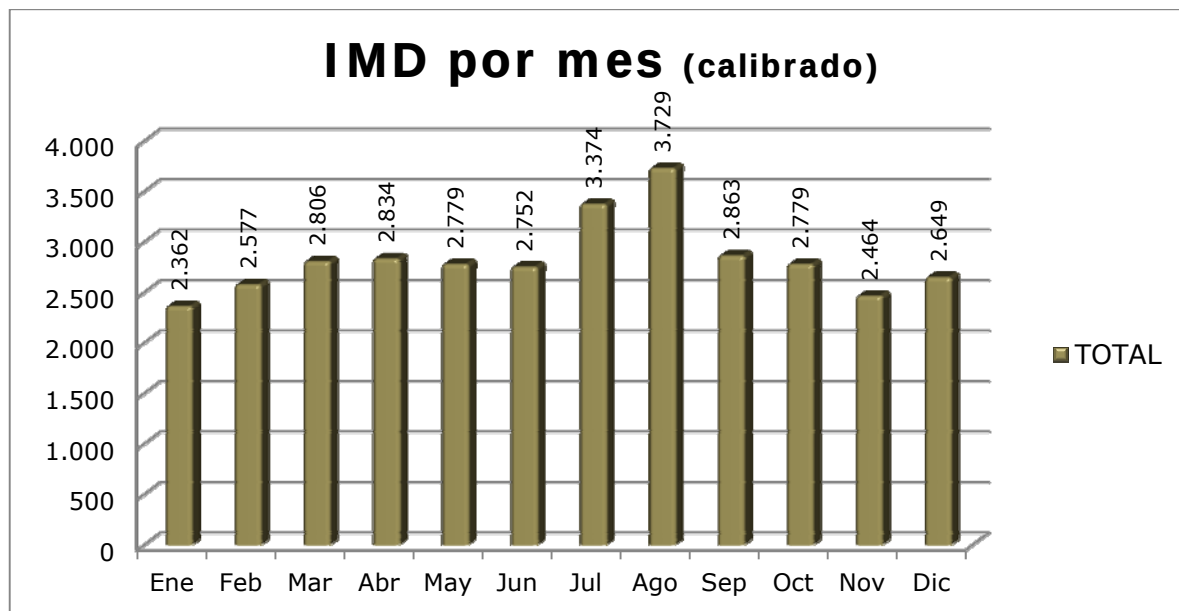
## 8.1. Volumen de vehículos – Total

|             | Lun        | Mar        | Mié        | Jue        | Vie        | Sab        | Dom        | 5d (L-V) | 7d (L-D) |
|-------------|------------|------------|------------|------------|------------|------------|------------|----------|----------|
|             | 08/13/2012 | 08/14/2012 | 08/15/2012 | 08/16/2012 | 08/17/2012 | 08/18/2012 | 08/19/2012 | Media    | Media    |
| 00:00       | 95         | 69         | 85         | 78         | 72         | 108        | 105        | 80       | 88       |
| 01:00       | 27         | 29         | 41         | 33         | 32         | 56         | 53         | 32       | 39       |
| 02:00       | 21         | 20         | 35         | 24         | 30         | 46         | 45         | 26       | 31       |
| 03:00       | 10         | 20         | 19         | 18         | 12         | 20         | 32         | 16       | 19       |
| 04:00       | 21         | 26         | 25         | 31         | 20         | 25         | 33         | 25       | 26       |
| 05:00       | 62         | 63         | 52         | 60         | 59         | 50         | 44         | 59       | 56       |
| 06:00       | 124        | 167        | 105        | 149        | 119        | 56         | 58         | 133      | 111      |
| 07:00       | 171        | 158        | 125        | 171        | 185        | 89         | 63         | 162      | 137      |
| 08:00       | 159        | 166        | 121        | 191        | 160        | 100        | 92         | 159      | 141      |
| 09:00       | 180        | 186        | 147        | 203        | 193        | 159        | 113        | 182      | 169      |
| 10:00       | 197        | 201        | 172        | 208        | 227        | 227        | 163        | 201      | 199      |
| 11:00       | 186        | 232        | 189        | 244        | 237        | 223        | 225        | 218      | 220      |
| 12:00       | 209        | 201        | 193        | 187        | 246        | 224        | 219        | 207      | 211      |
| 13:00       | 237        | 244        | 236        | 266        | 266        | 262        | 263        | 250      | 253      |
| 14:00       | 251        | 250        | 232        | 261        | 288        | 240        | 222        | 256      | 249      |
| 15:00       | 252        | 253        | 214        | 262        | 289        | 233        | 172        | 254      | 239      |
| 16:00       | 221        | 224        | 207        | 254        | 278        | 218        | 203        | 237      | 229      |
| 17:00       | 220        | 332        | 222        | 355        | 287        | 219        | 289        | 283      | 275      |
| 18:00       | 208        | 238        | 214        | 225        | 251        | 232        | 225        | 227      | 227      |
| 19:00       | 209        | 200        | 256        | 241        | 312        | 261        | 218        | 244      | 242      |
| 20:00       | 156        | 157        | 181        | 162        | 169        | 168        | 157        | 165      | 164      |
| 21:00       | 142        | 160        | 157        | 167        | 172        | 180        | 162        | 160      | 163      |
| 22:00       | 124        | 146        | 133        | 136        | 168        | 168        | 128        | 141      | 143      |
| 23:00       | 70         | 119        | 81         | 113        | 94         | 93         | 110        | 95       | 97       |
| 12h, 7-19   | 2.491      | 2.683      | 2.272      | 2.826      | 2.905      | 2.425      | 2.248      | 2.635    | 2.550    |
| 16h, 6-22   | 3.121      | 3.367      | 2.971      | 3.545      | 3.678      | 3.091      | 2.843      | 3.337    | 3.231    |
| 18h, 6-24   | 3.315      | 3.631      | 3.185      | 3.794      | 3.940      | 3.352      | 3.081      | 3.573    | 3.471    |
| 24h, 0-24   | 3.552      | 3.858      | 3.442      | 4.037      | 4.165      | 3.657      | 3.393      | 3.811    | 3.729    |
| AM          | 10:00      | 11:00      | 11:00      | 11:00      | 11:00      | 10:00      | 11:00      | 11:00    | 11:00    |
| Valor Punta | 197        | 232        | 189        | 244        | 237        | 227        | 225        | 218      | 220      |
| PM          | 15:00      | 17:00      | 19:00      | 17:00      | 19:00      | 13:00      | 17:00      | 17:00    | 17:00    |
| Valor Punta | 252        | 332        | 256        | 355        | 312        | 262        | 289        | 283      | 275      |



### 8.1.1. Gráficos de volumen de vehículos –Total

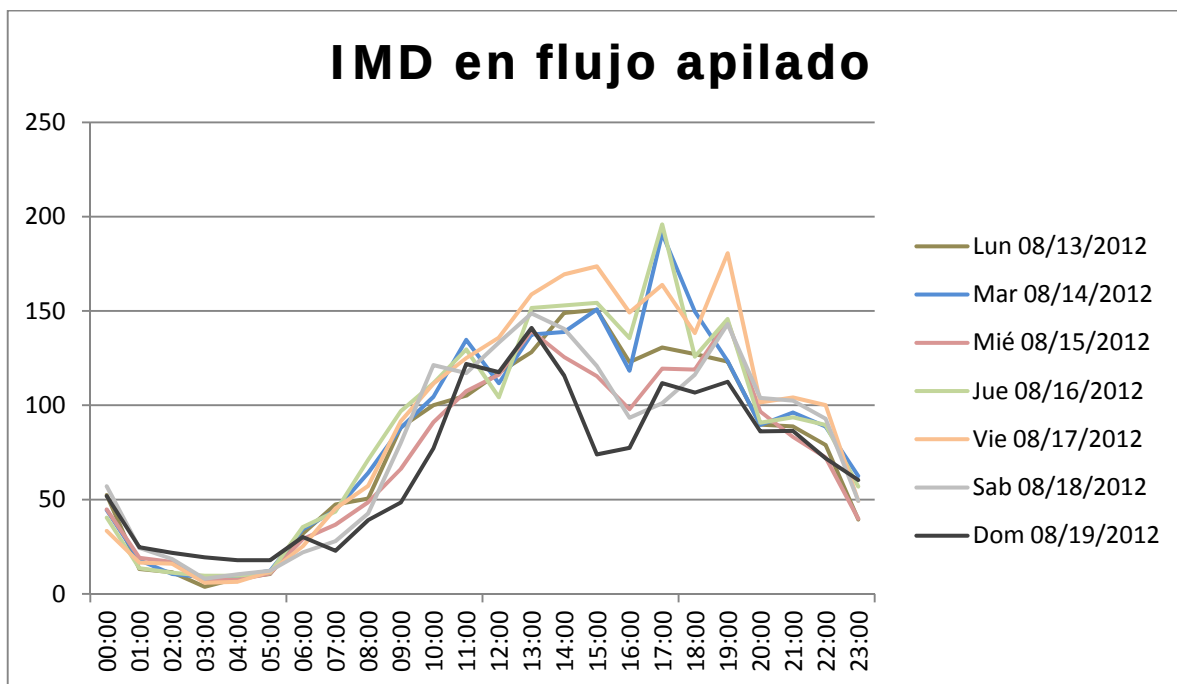
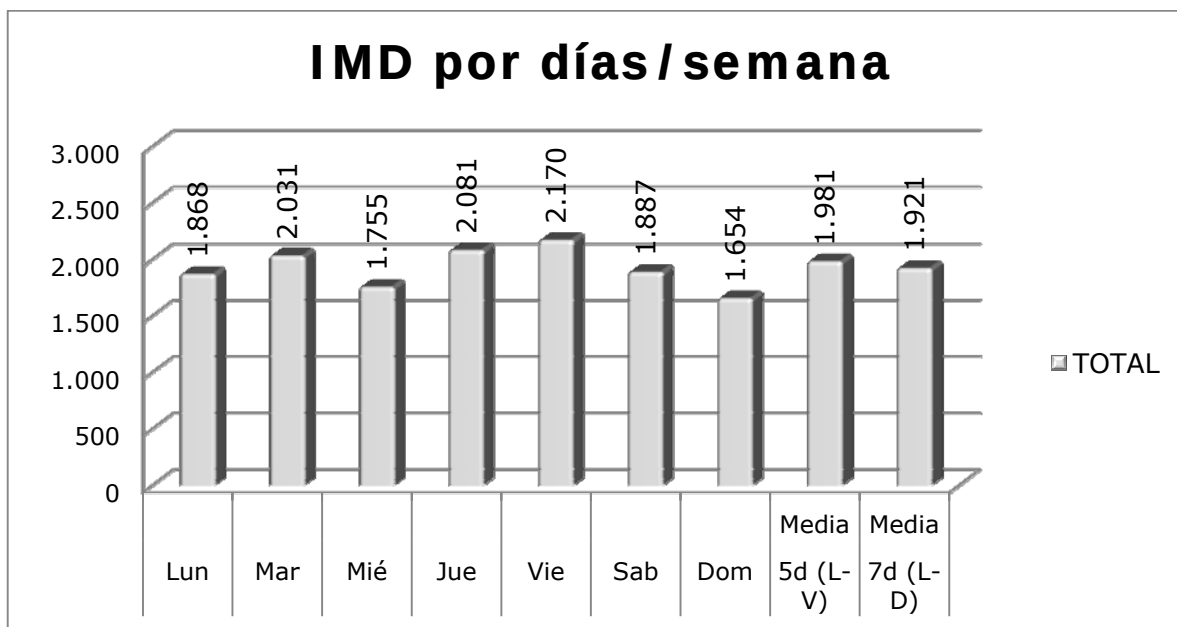




## 8.2. Volumen de vehículos – Sentido A

|             | Lun        | Mar        | Mié        | Jue        | Vie        | Sab        | Dom        | 5d (L-V) | 7d (L-D) |
|-------------|------------|------------|------------|------------|------------|------------|------------|----------|----------|
|             | 08/13/2012 | 08/14/2012 | 08/15/2012 | 08/16/2012 | 08/17/2012 | 08/18/2012 | 08/19/2012 | Media    | Media    |
| 00:00       | 52         | 44         | 45         | 40         | 33         | 57         | 52         | 43       | 46       |
| 01:00       | 13         | 18         | 19         | 14         | 17         | 24         | 25         | 16       | 18       |
| 02:00       | 11         | 11         | 17         | 11         | 16         | 19         | 22         | 13       | 15       |
| 03:00       | 4          | 9          | 7          | 10         | 6          | 8          | 19         | 7        | 9        |
| 04:00       | 8          | 9          | 7          | 10         | 6          | 10         | 18         | 8        | 10       |
| 05:00       | 11         | 12         | 11         | 11         | 12         | 12         | 18         | 11       | 12       |
| 06:00       | 32         | 34         | 29         | 35         | 25         | 22         | 30         | 31       | 30       |
| 07:00       | 47         | 44         | 37         | 44         | 45         | 28         | 23         | 43       | 38       |
| 08:00       | 51         | 64         | 49         | 71         | 57         | 43         | 39         | 58       | 53       |
| 09:00       | 88         | 88         | 66         | 97         | 91         | 80         | 48         | 86       | 80       |
| 10:00       | 100        | 105        | 91         | 112        | 111        | 121        | 77         | 104      | 102      |
| 11:00       | 105        | 135        | 107        | 130        | 125        | 117        | 122        | 120      | 120      |
| 12:00       | 117        | 112        | 116        | 104        | 136        | 133        | 118        | 117      | 119      |
| 13:00       | 128        | 138        | 139        | 152        | 159        | 149        | 141        | 143      | 144      |
| 14:00       | 149        | 139        | 126        | 153        | 169        | 140        | 116        | 147      | 142      |
| 15:00       | 151        | 151        | 115        | 154        | 174        | 121        | 74         | 149      | 134      |
| 16:00       | 123        | 118        | 98         | 136        | 149        | 93         | 77         | 125      | 114      |
| 17:00       | 131        | 191        | 119        | 196        | 164        | 101        | 112        | 160      | 145      |
| 18:00       | 127        | 150        | 119        | 126        | 138        | 116        | 107        | 132      | 126      |
| 19:00       | 123        | 123        | 145        | 146        | 181        | 143        | 113        | 144      | 139      |
| 20:00       | 90         | 90         | 97         | 91         | 101        | 104        | 86         | 94       | 94       |
| 21:00       | 89         | 96         | 83         | 94         | 104        | 102        | 86         | 93       | 94       |
| 22:00       | 79         | 89         | 72         | 90         | 100        | 93         | 72         | 86       | 85       |
| 23:00       | 39         | 63         | 40         | 57         | 49         | 49         | 60         | 50       | 51       |
| 12h, 7-19   | 1.317      | 1.434      | 1.183      | 1.473      | 1.519      | 1.243      | 1.053      | 1.385    | 1.317    |
| 16h, 6-22   | 1.650      | 1.777      | 1.536      | 1.838      | 1.931      | 1.614      | 1.369      | 1.747    | 1.674    |
| 18h, 6-24   | 1.769      | 1.928      | 1.648      | 1.985      | 2.080      | 1.756      | 1.501      | 1.882    | 1.810    |
| 24h, 0-24   | 1.868      | 2.031      | 1.755      | 2.081      | 2.170      | 1.887      | 1.654      | 1.981    | 1.921    |
| AM          | 11:00      | 11:00      | 11:00      | 11:00      | 11:00      | 10:00      | 11:00      | 11:00    | 11:00    |
| Valor Punta | 105        | 135        | 107        | 130        | 125        | 121        | 122        | 120      | 120      |
| PM          | 15:00      | 17:00      | 19:00      | 17:00      | 19:00      | 13:00      | 13:00      | 17:00    | 17:00    |
| Valor Punta | 151        | 191        | 145        | 196        | 181        | 149        | 141        | 160      | 145      |

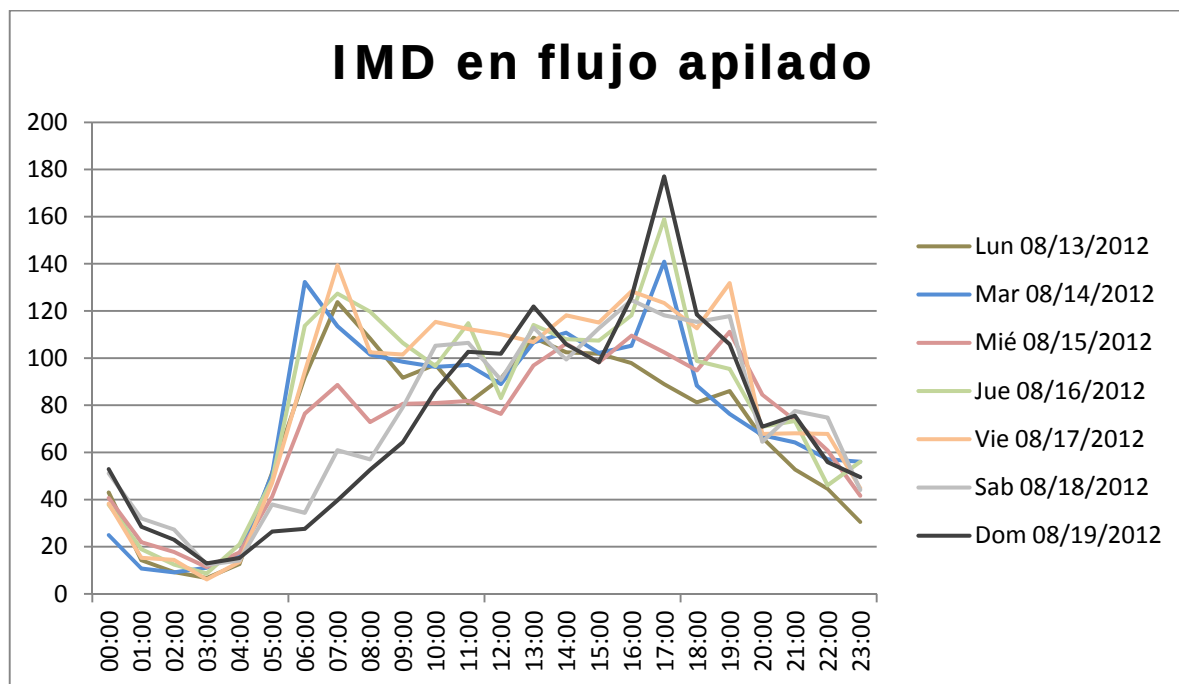
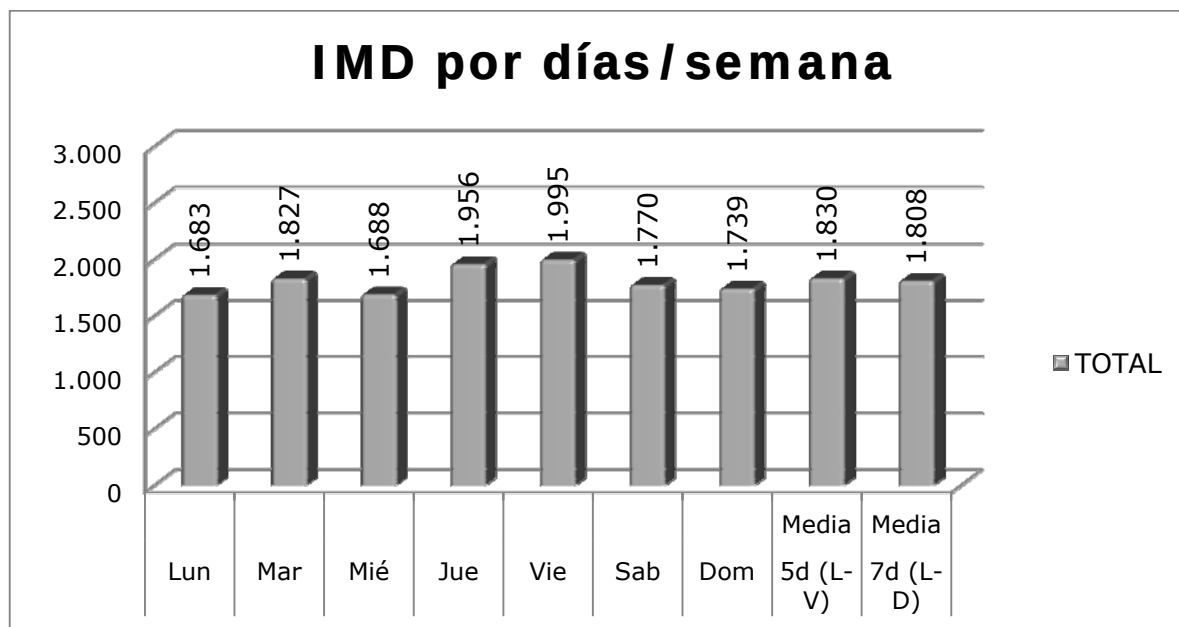
### 8.2.1. Gráficos de volumen de vehículos –Sentido A



### 8.3. Volumen de vehículos – Sentido B

|             | Lun        | Mar        | Mié        | Jue        | Vie        | Sab        | Dom        | 5d (L-V) | 7d (L-D) |
|-------------|------------|------------|------------|------------|------------|------------|------------|----------|----------|
|             | 08/13/2012 | 08/14/2012 | 08/15/2012 | 08/16/2012 | 08/17/2012 | 08/18/2012 | 08/19/2012 | Media    | Media    |
| 00:00       | 43         | 25         | 41         | 38         | 38         | 51         | 53         | 37       | 41       |
| 01:00       | 14         | 11         | 22         | 19         | 15         | 32         | 28         | 16       | 20       |
| 02:00       | 9          | 9          | 18         | 12         | 14         | 27         | 23         | 13       | 16       |
| 03:00       | 7          | 11         | 11         | 9          | 6          | 12         | 13         | 9        | 10       |
| 04:00       | 13         | 17         | 18         | 21         | 14         | 14         | 15         | 16       | 16       |
| 05:00       | 51         | 51         | 41         | 48         | 47         | 38         | 26         | 48       | 43       |
| 06:00       | 92         | 132        | 76         | 114        | 94         | 34         | 28         | 102      | 81       |
| 07:00       | 124        | 114        | 89         | 127        | 139        | 61         | 40         | 119      | 99       |
| 08:00       | 108        | 102        | 73         | 120        | 102        | 57         | 53         | 101      | 88       |
| 09:00       | 92         | 98         | 81         | 106        | 102        | 79         | 64         | 96       | 89       |
| 10:00       | 97         | 96         | 81         | 97         | 115        | 105        | 86         | 97       | 97       |
| 11:00       | 81         | 97         | 82         | 115        | 112        | 106        | 103        | 97       | 99       |
| 12:00       | 91         | 89         | 76         | 83         | 110        | 91         | 102        | 90       | 92       |
| 13:00       | 109        | 107        | 97         | 114        | 107        | 113        | 122        | 107      | 110      |
| 14:00       | 102        | 111        | 106        | 108        | 118        | 99         | 106        | 109      | 107      |
| 15:00       | 102        | 102        | 98         | 107        | 115        | 113        | 98         | 105      | 105      |
| 16:00       | 98         | 105        | 110        | 118        | 128        | 125        | 126        | 112      | 116      |
| 17:00       | 89         | 141        | 102        | 159        | 123        | 118        | 177        | 123      | 130      |
| 18:00       | 81         | 88         | 95         | 99         | 113        | 115        | 118        | 95       | 101      |
| 19:00       | 86         | 76         | 111        | 95         | 132        | 118        | 106        | 100      | 103      |
| 20:00       | 66         | 67         | 84         | 71         | 68         | 65         | 71         | 71       | 70       |
| 21:00       | 53         | 64         | 74         | 73         | 68         | 78         | 76         | 66       | 69       |
| 22:00       | 45         | 57         | 61         | 46         | 68         | 75         | 56         | 55       | 58       |
| 23:00       | 31         | 56         | 42         | 56         | 45         | 44         | 50         | 46       | 46       |
| 12h, 7-19   | 1.174      | 1.250      | 1.089      | 1.353      | 1.386      | 1.183      | 1.194      | 1.250    | 1.233    |
| 16h, 6-22   | 1.471      | 1.590      | 1.435      | 1.707      | 1.747      | 1.477      | 1.474      | 1.590    | 1.557    |
| 18h, 6-24   | 1.546      | 1.703      | 1.537      | 1.809      | 1.860      | 1.596      | 1.580      | 1.691    | 1.662    |
| 24h, 0-24   | 1.683      | 1.827      | 1.688      | 1.956      | 1.995      | 1.770      | 1.739      | 1.830    | 1.808    |
| AM          | 11:00      | 11:00      | 07:00      | 07:00      | 07:00      | 11:00      | 11:00      | 07:00    | 07:00    |
| Valor Punta | 124        | 132        | 89         | 127        | 139        | 106        | 103        | 119      | 99       |
| PM          | 13:00      | 17:00      | 19:00      | 17:00      | 19:00      | 16:00      | 17:00      | 17:00    | 17:00    |
| Valor Punta | 109        | 141        | 111        | 159        | 132        | 125        | 177        | 123      | 130      |

### 8.3.1. Gráficos de volumen de vehículos –Sentido B



## 8.4. Clases de vehículos

### 8.4.1. Esquema de clasificación FHWA

| Ejes     | Grupos | Descripción                                     | Clase | Parámetros                                                                                               | Vehículo Dominante                                                                                                                                                         | Conjunto   |
|----------|--------|-------------------------------------------------|-------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 2        | 1      | Bicicleta o Moto                                | 1     | $d(1) < 1.7\text{m}$ & Ejes=2                                                                            |                                                                                         | 1 (Ligero) |
| 2, 3 o 4 | 1 o 2  | Turismo, Furgoneta ligera                       | 2     | $d(1) \geq 1.7\text{m}$ ,<br>$d(1) \leq 3.2\text{m}$ & Ejes=2                                            | <br> |            |
| 2, 3 o 4 | 1      | Caravana, Remolque, etc. Pick-ups y furgonetas. | 3     | grupos=3, $d(1) \geq 2.1\text{m}$ ,<br>$d(1) \leq 3.2\text{m}$ ,<br>$d(2) \geq 2.1\text{m}$ & Ejes=3,4,5 |                                                                                         |            |
| 2 o 3    | 1      | Bus                                             | 5     | $d(1) > 3.2\text{m}$ & Ejes=2                                                                            |                                                                                         | 2 (Medio)  |
| 2        | 1      | Camión rígido de dos ejes                       | 3     | Ejes=2 & grupos=1                                                                                        |                                                                                       |            |
| 3        | 1      | Camión rígido de tres ejes                      | 4     | Ejes>3 & grupos=2                                                                                        |                                                                                       |            |
| 4        | 1      | Camión articulado rígido de tres ejes           | 4     | $d(1) > 3.2\text{m}$ , Ejes=3 & grupos=4                                                                 |                                                                                       | 3 (Pesado) |
| 2 o 4    | 2      | Camión articulado rígido de cuatro ejes         | 5     | $d(2) < 2.1\text{m}$ o $d(1) < 2.1\text{m}$<br>o $d(1) > 3.2\text{m}$<br>Ejes = 4 & grupos>2             |                                                                                       |            |
| 5 o 6    | 2      | Camión articulado rígido de cinco ejes          | 5     | $d(2) < 2.1\text{m}$ o $d(1) < 2.1\text{m}$<br>o $d(1) > 3.2\text{m}$<br>Ejes=5 & grupos>2               |                                                                                       |            |
| 6 o 7    | 2      | Camión articulado rígido de seis ejes (o más)   | 5     | Ejes=6 & grupos>2 o<br>Ejes>6 & grupos=3                                                                 |                                                                                       |            |
| 5        | 3      | Camion con remolque                             | 5     | grupos=4 & Ejes>6                                                                                        |                                                                                       |            |
| 6        | 3      | Camion con remolque                             | 5     | grupos>=5 & Ejes>6                                                                                       |                                                                                       |            |
| 7        | >3     | Camión con remolque                             | 5     |                                                                                                          |                                                                                       |            |

Clase para vehículos inclasificables: 13

## 8.4.2. Clases de vehículos absolutos

|       | Total | Bin 1  | Bin 2   | Bin 3   | Bin 4    | Bin 5 |
|-------|-------|--------|---------|---------|----------|-------|
|       | Vol.  | <=2,8m | 2,8-5,2 | 5,2-6,5 | 6,5-11,5 | >11,5 |
| 00:00 | 88    | 2      | 48      | 33      | 2        | 2     |
| 01:00 | 39    | 1      | 21      | 16      | 0        | 0     |
| 02:00 | 31    | 1      | 17      | 13      | 0        | 0     |
| 03:00 | 19    | 1      | 10      | 9       | 0        | 0     |
| 04:00 | 26    | 0      | 11      | 15      | 0        | 0     |
| 05:00 | 56    | 1      | 15      | 38      | 1        | 0     |
| 06:00 | 111   | 2      | 35      | 72      | 1        | 1     |
| 07:00 | 137   | 3      | 52      | 79      | 2        | 1     |
| 08:00 | 141   | 5      | 65      | 68      | 2        | 0     |
| 09:00 | 169   | 5      | 94      | 66      | 3        | 0     |
| 10:00 | 199   | 9      | 119     | 65      | 5        | 1     |
| 11:00 | 220   | 10     | 138     | 65      | 6        | 1     |
| 12:00 | 211   | 12     | 135     | 57      | 6        | 2     |
| 13:00 | 253   | 13     | 163     | 69      | 8        | 1     |
| 14:00 | 249   | 12     | 158     | 72      | 7        | 1     |
| 15:00 | 239   | 8      | 151     | 75      | 6        | 0     |
| 16:00 | 229   | 8      | 131     | 84      | 6        | 0     |
| 17:00 | 275   | 11     | 169     | 88      | 7        | 1     |
| 18:00 | 227   | 10     | 144     | 66      | 6        | 1     |
| 19:00 | 242   | 13     | 158     | 63      | 8        | 1     |
| 20:00 | 164   | 9      | 109     | 41      | 5        | 0     |
| 21:00 | 163   | 8      | 106     | 45      | 3        | 0     |
| 22:00 | 143   | 4      | 93      | 43      | 3        | 1     |
| 23:00 | 97    | 3      | 54      | 37      | 2        | 2     |

### Totales

|          |       |     |       |       |    |    |
|----------|-------|-----|-------|-------|----|----|
| 12H,7-19 | 2.550 | 106 | 1.519 | 854   | 64 | 7  |
| 16H,6-22 | 3.231 | 139 | 1.927 | 1.075 | 81 | 10 |
| 18H,6-24 | 3.471 | 146 | 2.073 | 1.155 | 85 | 12 |
| 24H,0-24 | 3.729 | 152 | 2.195 | 1.279 | 88 | 15 |

|             |       |       |       |       |       |       |
|-------------|-------|-------|-------|-------|-------|-------|
| AM          | 11:00 | 11:00 | 11:00 | 07:00 | 11:00 | 00:00 |
| Valor Punta | 220   | 10    | 138   | 79    | 6     | 2     |

|             |       |       |       |       |       |       |
|-------------|-------|-------|-------|-------|-------|-------|
| PM          | 17:00 | 13:00 | 17:00 | 17:00 | 19:00 | 23:00 |
| Valor Punta | 275   | 13    | 169   | 88    | 8     | 2     |



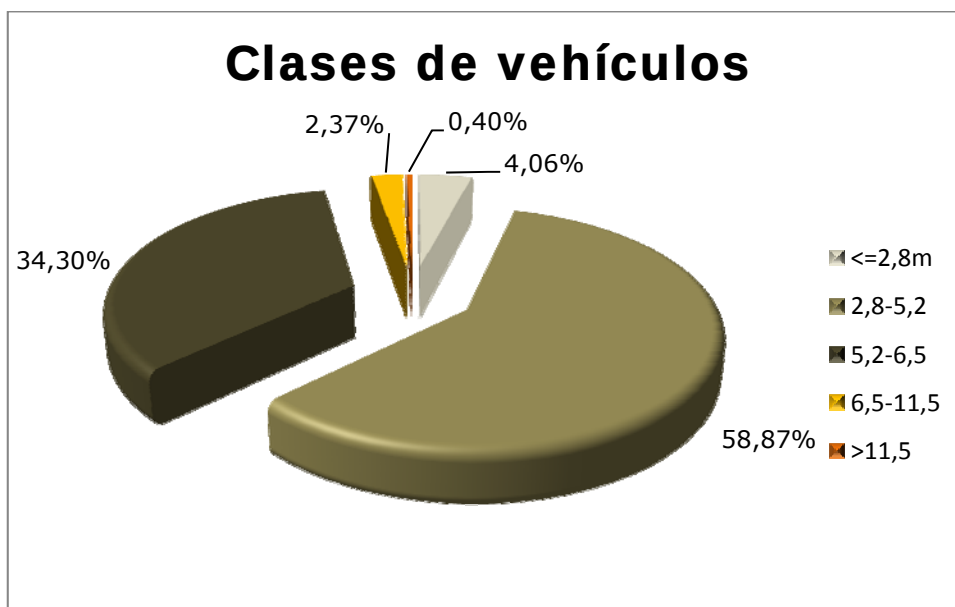
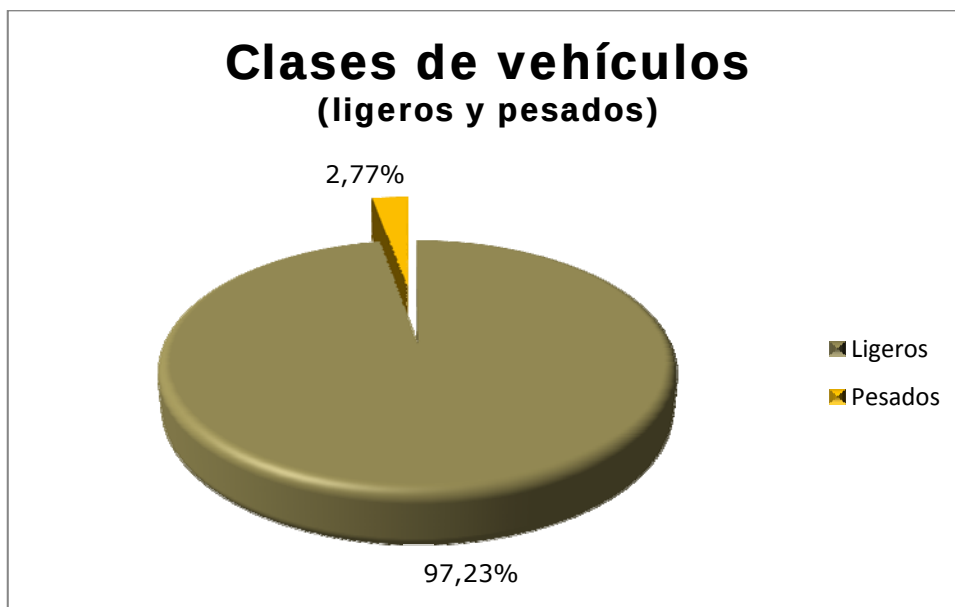
### 8.4.3. Clases de vehículos porcentuales

|       | Total | Bin 1  | Bin 2   | Bin 3   | Bin 4    | Bin 5 |
|-------|-------|--------|---------|---------|----------|-------|
|       | Vol.  | <=2,8m | 2,8-5,2 | 5,2-6,5 | 6,5-11,5 | >11,5 |
| 00:00 | 88    | 2,05%  | 55,23%  | 38,18%  | 2,37%    | 2,17% |
| 01:00 | 39    | 2,78%  | 53,44%  | 42,30%  | 0,97%    | 0,51% |
| 02:00 | 31    | 2,89%  | 53,89%  | 42,34%  | 0,00%    | 0,87% |
| 03:00 | 19    | 3,03%  | 51,52%  | 45,45%  | 0,00%    | 0,00% |
| 04:00 | 26    | 1,16%  | 41,86%  | 56,98%  | 0,00%    | 0,00% |
| 05:00 | 56    | 2,30%  | 27,64%  | 68,53%  | 1,00%    | 0,52% |
| 06:00 | 111   | 2,04%  | 31,60%  | 64,56%  | 1,18%    | 0,62% |
| 07:00 | 137   | 2,35%  | 37,98%  | 57,61%  | 1,67%    | 0,39% |
| 08:00 | 141   | 3,50%  | 46,25%  | 48,38%  | 1,52%    | 0,35% |
| 09:00 | 169   | 2,89%  | 55,67%  | 39,37%  | 1,92%    | 0,15% |
| 10:00 | 199   | 4,56%  | 59,91%  | 32,66%  | 2,60%    | 0,26% |
| 11:00 | 220   | 4,73%  | 62,86%  | 29,62%  | 2,54%    | 0,25% |
| 12:00 | 211   | 5,47%  | 63,99%  | 26,80%  | 3,01%    | 0,73% |
| 13:00 | 253   | 4,98%  | 64,45%  | 27,13%  | 3,23%    | 0,21% |
| 14:00 | 249   | 4,63%  | 63,41%  | 29,11%  | 2,65%    | 0,21% |
| 15:00 | 239   | 3,30%  | 62,98%  | 31,25%  | 2,36%    | 0,11% |
| 16:00 | 229   | 3,61%  | 57,10%  | 36,70%  | 2,49%    | 0,11% |
| 17:00 | 275   | 4,11%  | 61,37%  | 31,89%  | 2,42%    | 0,22% |
| 18:00 | 227   | 4,59%  | 63,36%  | 29,02%  | 2,70%    | 0,34% |
| 19:00 | 242   | 5,41%  | 64,96%  | 25,91%  | 3,14%    | 0,59% |
| 20:00 | 164   | 5,76%  | 66,08%  | 24,86%  | 3,03%    | 0,28% |
| 21:00 | 163   | 4,76%  | 65,15%  | 27,88%  | 1,95%    | 0,25% |
| 22:00 | 143   | 3,08%  | 64,77%  | 29,87%  | 1,84%    | 0,44% |
| 23:00 | 97    | 2,59%  | 55,69%  | 37,81%  | 2,03%    | 1,88% |

#### Totals

|          |       |         |        |        |         |       |
|----------|-------|---------|--------|--------|---------|-------|
| 12H,7-19 | 2.550 | 4,16%   | 59,58% | 33,50% | 2,50%   | 0,27% |
| 16H,6-22 | 3.231 | 4,29%   | 59,63% | 33,27% | 2,50%   | 0,30% |
| 18H,6-24 | 3.471 | 4,20%   | 59,73% | 33,26% | 2,46%   | 0,35% |
| 24H,0-24 | 3.729 | 4,06%   | 58,87% | 34,30% | 2,37%   | 0,40% |
|          |       | Ligeros |        |        | Pesados |       |
| Am       | 11:00 | 11:00   | 11:00  | 07:00  | 11:00   | 00:00 |
| Peak     | 220   | 10      | 138    | 79     | 6       | 2     |
| Am       | 17:00 | 13:00   | 17:00  | 17:00  | 19:00   | 23:00 |
| Peak     | 275   | 13      | 169    | 88     | 8       | 2     |

#### 8.4.4. Gráficos de clases de vehículos



## 8.5. Velocidades

|             | Total | 85th  | Mean  | Std.  | Bin 1 | Bin 2 | Bin 3  | Bin 4  | Bin 5  | Bin 6  | Bin 7  | Bin 8  | Bin 9  | Bin 10 | Bin 11 | Bin 12 | Bin 13 |
|-------------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|             | Vol.  | %ile  | Ave.  | Dev.  | <6Kph | 6-<11 | 11-<16 | 16-<21 | 21-<26 | 26-<31 | 31-<36 | 36-<41 | 41-<46 | 46-<51 | 51-<56 | 56-<61 | ≥61    |
| 00:00       | 88    | 48,8  | 41,0  | 10,0  | 0     | 0     | 0      | 0      | 0      | 3      | 17     | 25     | 17     | 12     | 7      | 4      | 2      |
| 01:00       | 39    | 50,5  | 42,9  | 9,8   | 0     | 0     | 0      | 0      | 0      | 1      | 5      | 11     | 9      | 6      | 4      | 2      | 1      |
| 02:00       | 31    | 51,4  | 43,1  | 10,3  | 0     | 0     | 0      | 0      | 0      | 1      | 5      | 9      | 6      | 5      | 4      | 2      | 1      |
| 03:00       | 19    | 52,5  | 44,0  | 10,7  | 0     | 0     | 0      | 0      | 0      | 0      | 3      | 5      | 4      | 3      | 3      | 1      | 1      |
| 04:00       | 26    | 55,2  | 46,0  | 11,1  | 0     | 0     | 0      | 0      | 0      | 1      | 3      | 5      | 5      | 5      | 4      | 2      | 2      |
| 05:00       | 56    | 57,3  | 48,2  | 10,7  | 0     | 0     | 0      | 0      | 0      | 1      | 4      | 8      | 11     | 12     | 9      | 7      | 4      |
| 06:00       | 111   | 54,1  | 46,4  | 10,0  | 0     | 0     | 0      | 0      | 0      | 1      | 8      | 18     | 25     | 24     | 18     | 11     | 5      |
| 07:00       | 137   | 50,4  | 43,9  | 9,0   | 0     | 0     | 0      | 0      | 1      | 2      | 13     | 28     | 37     | 30     | 17     | 7      | 3      |
| 08:00       | 141   | 50,2  | 42,8  | 9,7   | 0     | 0     | 0      | 0      | 1      | 4      | 19     | 32     | 32     | 26     | 15     | 8      | 3      |
| 09:00       | 169   | 48,4  | 41,0  | 9,5   | 0     | 0     | 0      | 0      | 2      | 9      | 34     | 36     | 38     | 25     | 16     | 6      | 3      |
| 10:00       | 199   | 45,9  | 38,4  | 9,2   | 0     | 0     | 0      | 1      | 3      | 15     | 57     | 44     | 35     | 25     | 13     | 5      | 2      |
| 11:00       | 220   | 44,5  | 37,0  | 9,1   | 0     | 0     | 0      | 1      | 6      | 25     | 68     | 47     | 34     | 24     | 10     | 4      | 2      |
| 12:00       | 211   | 44,0  | 36,3  | 9,6   | 0     | 0     | 1      | 2      | 6      | 25     | 65     | 45     | 30     | 21     | 10     | 4      | 1      |
| 13:00       | 253   | 45,2  | 37,6  | 9,4   | 0     | 0     | 0      | 1      | 4      | 24     | 75     | 63     | 37     | 27     | 13     | 7      | 3      |
| 14:00       | 249   | 46,4  | 38,7  | 9,6   | 0     | 0     | 0      | 1      | 3      | 19     | 67     | 63     | 43     | 27     | 17     | 7      | 3      |
| 15:00       | 239   | 48,7  | 40,8  | 9,7   | 0     | 0     | 0      | 0      | 1      | 9      | 53     | 68     | 44     | 30     | 17     | 11     | 5      |
| 16:00       | 229   | 49,4  | 41,5  | 9,8   | 0     | 0     | 0      | 0      | 2      | 8      | 47     | 59     | 43     | 34     | 22     | 10     | 5      |
| 17:00       | 275   | 47,2  | 39,7  | 9,6   | 0     | 0     | 0      | 0      | 3      | 17     | 67     | 70     | 50     | 35     | 19     | 9      | 5      |
| 18:00       | 227   | 45,5  | 38,0  | 9,5   | 0     | 0     | 0      | 1      | 5      | 19     | 65     | 54     | 38     | 25     | 13     | 6      | 2      |
| 19:00       | 242   | 43,6  | 36,6  | 9,0   | 0     | 0     | 0      | 1      | 4      | 28     | 76     | 57     | 38     | 23     | 11     | 4      | 2      |
| 20:00       | 164   | 42,7  | 35,8  | 9,1   | 0     | 0     | 0      | 1      | 4      | 23     | 54     | 35     | 23     | 14     | 6      | 3      | 1      |
| 21:00       | 163   | 44,4  | 36,9  | 9,2   | 0     | 0     | 0      | 0      | 2      | 19     | 55     | 34     | 24     | 17     | 8      | 3      | 1      |
| 22:00       | 143   | 47,1  | 39,4  | 9,7   | 0     | 0     | 0      | 0      | 1      | 8      | 41     | 38     | 23     | 17     | 11     | 3      | 2      |
| 23:00       | 97    | 48,7  | 41,0  | 10,1  | 0     | 0     | 1      | 0      | 1      | 3      | 20     | 26     | 18     | 15     | 8      | 4      | 2      |
| Totales     |       |       |       |       |       |       |        |        |        |        |        |        |        |        |        |        |        |
| 12H,7-19    | 2550  | 50,4  | 43,9  | 9,8   | 0     | 0     | 1      | 6      | 35     | 177    | 631    | 609    | 461    | 328    | 183    | 83     | 36     |
| 16H,6-22    | 3231  | 50,2  | 42,8  | 9,8   | 0     | 0     | 1      | 8      | 46     | 248    | 825    | 752    | 572    | 405    | 226    | 104    | 44     |
| 18H,6-24    | 3471  | 49,4  | 41,5  | 9,8   | 0     | 0     | 2      | 8      | 47     | 259    | 886    | 815    | 613    | 437    | 245    | 111    | 48     |
| 24H,0-24    | 3729  | 49,4  | 41,5  | 9,8   | 0     | 0     | 2      | 8      | 47     | 265    | 923    | 878    | 664    | 479    | 275    | 128    | 60     |
| AM          | 11:00 | 05:00 | 05:00 | 04:00 | 11:00 | 11:00 | 11:00  | 11:00  | 11:00  | 11:00  | 11:00  | 11:00  | 09:00  | 07:00  | 06:00  | 06:00  | 06:00  |
| Valor Punta | 220   | 57,3  | 48,2  | 11,1  | 0     | 0     | 0      | 1      | 6      | 25     | 68     | 47     | 38     | 30     | 18     | 11     | 5      |
| PM          | 17:00 | 16:00 | 16:00 | 23:00 | 12:00 | 12:00 | 12:00  | 12:00  | 12:00  | 19:00  | 19:00  | 17:00  | 17:00  | 17:00  | 16:00  | 15:00  | 17:00  |
| Valor Punta | 275   | 49,4  | 41,5  | 10,1  | 0     | 0     | 1      | 2      | 6      | 28     | 76     | 70     | 50     | 35     | 22     | 11     | 5      |

## 9. Datos del aforo 03

### Duración de los Aforos:

00:00 lunes, 13 de septiembre 2012 => 23:00 domingo, 19 de septiembre 2012

### Identificador:

Vectio RD-03 (Aforador Radar)

### Tipo de Datos:

Sensores de Ejes - En Pares (Clase, Velocidad, Recuento)

### Clases Incluidas:

1, 2, 3, 4, 5

### Esquema:

Clasificación Vehicular (FHWA)

### Intervalo de Velocidades:

10 - 200 km/h.

### Sentido de Circulación:

1: A-B = Ascendente (Salida de Castro Urdiales)

2: B-A = Descendente (Entrada a Castro Urdiales)

### Separación:

Todos - (Intervalo Vehicular)

### Unidades:

Métrico (metro, kilómetro, m/s, km/h, kg, Tonelada Métrica (kg))

### Localización del aforador:

N-634 (Paseo de Menéndez Pelayo)

### Localización geográfica:

N 43°22'30.55"

O 3°12'52.42"

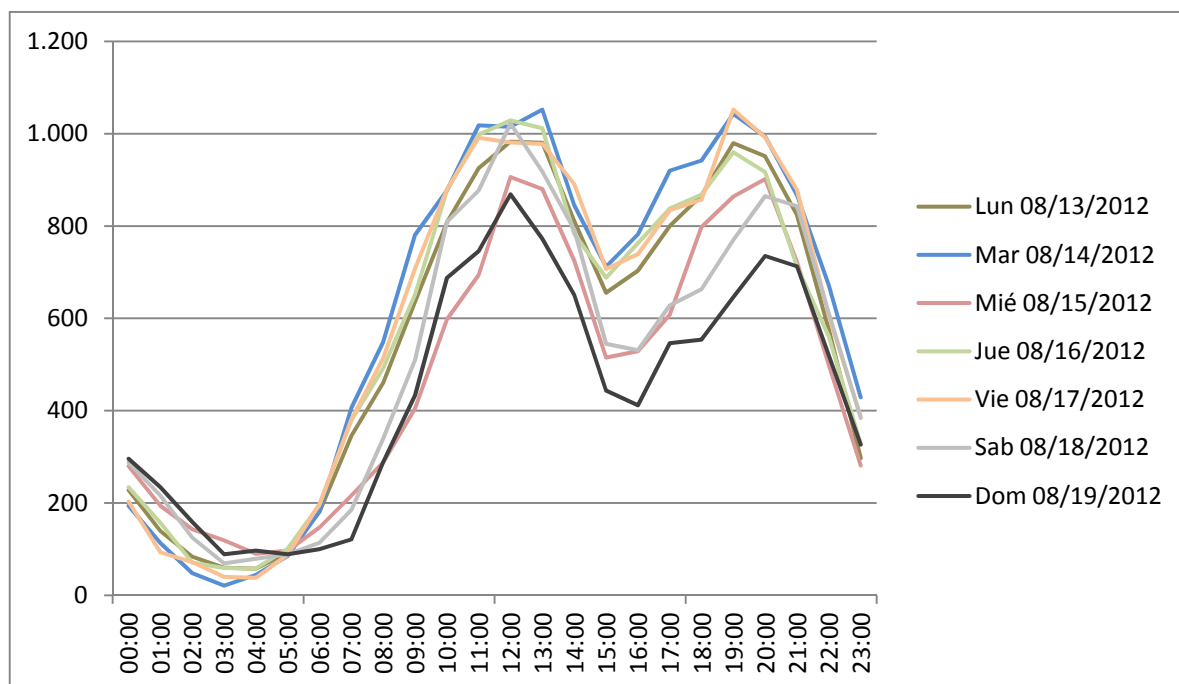
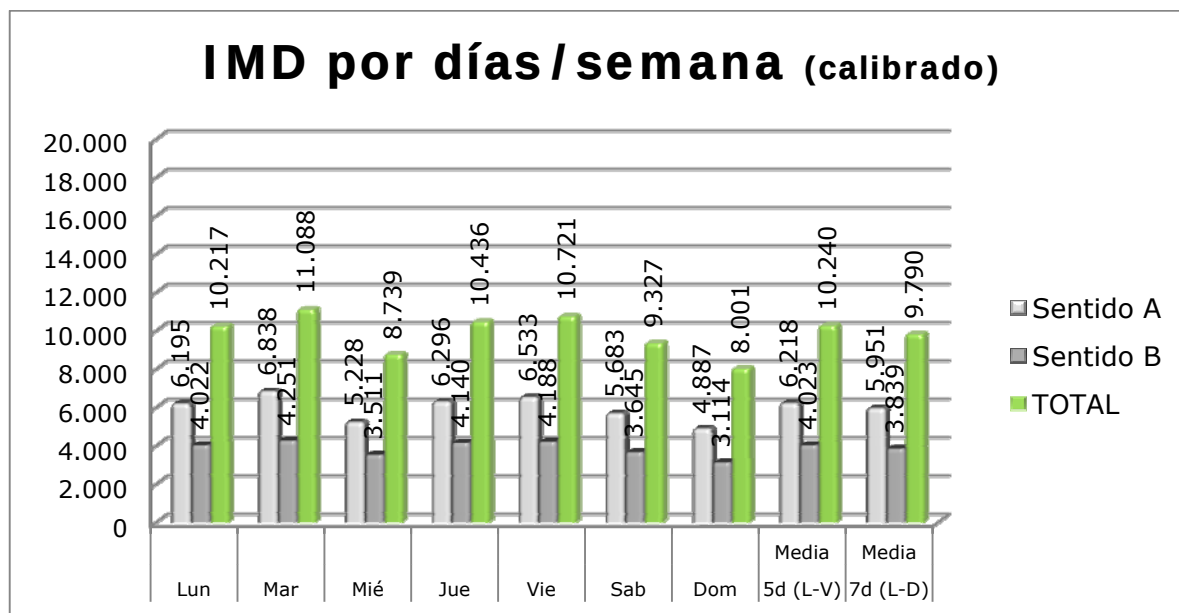
### Imagen

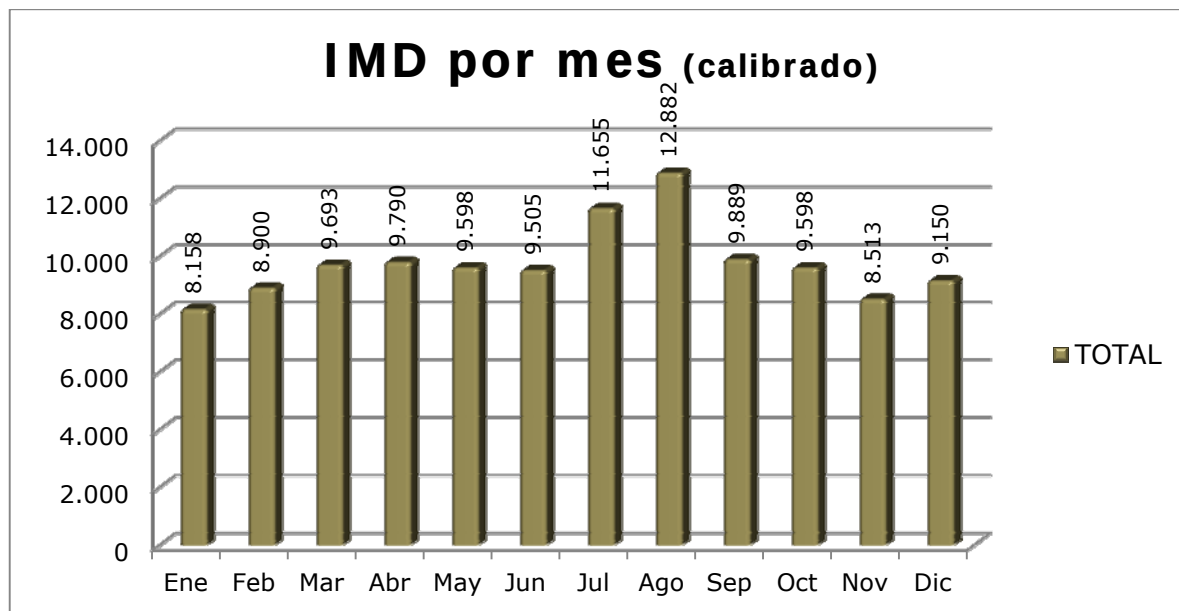


## 9.1. Volumen de vehículos – Total

|             | Lun        | Mar        | Mié        | Jue        | Vie        | Sab        | Dom        | 5d (L-V) | 7d (L-D) |
|-------------|------------|------------|------------|------------|------------|------------|------------|----------|----------|
|             | 08/13/2012 | 08/14/2012 | 08/15/2012 | 08/16/2012 | 08/17/2012 | 08/18/2012 | 08/19/2012 | Media    | Media    |
| 00:00       | 228        | 194        | 280        | 234        | 203        | 288        | 296        | 228      | 246      |
| 01:00       | 139        | 113        | 194        | 157        | 93         | 216        | 234        | 139      | 164      |
| 02:00       | 84         | 48         | 143        | 71         | 72         | 125        | 159        | 84       | 100      |
| 03:00       | 60         | 21         | 119        | 59         | 40         | 69         | 89         | 60       | 65       |
| 04:00       | 58         | 44         | 90         | 58         | 38         | 79         | 97         | 58       | 66       |
| 05:00       | 93         | 85         | 97         | 101        | 88         | 89         | 89         | 93       | 92       |
| 06:00       | 181        | 182        | 147        | 196        | 198        | 114        | 100        | 181      | 160      |
| 07:00       | 346        | 406        | 216        | 379        | 381        | 185        | 121        | 346      | 291      |
| 08:00       | 461        | 549        | 288        | 492        | 514        | 340        | 289        | 461      | 419      |
| 09:00       | 637        | 781        | 405        | 652        | 708        | 510        | 434        | 637      | 589      |
| 10:00       | 808        | 877        | 598        | 877        | 880        | 809        | 688        | 808      | 791      |
| 11:00       | 925        | 1.018      | 694        | 998        | 991        | 877        | 745        | 925      | 893      |
| 12:00       | 983        | 1.015      | 906        | 1.029      | 981        | 1.022      | 869        | 983      | 972      |
| 13:00       | 981        | 1.052      | 880        | 1.012      | 978        | 918        | 772        | 981      | 942      |
| 14:00       | 811        | 845        | 725        | 783        | 891        | 792        | 651        | 811      | 785      |
| 15:00       | 656        | 712        | 515        | 688        | 707        | 545        | 444        | 656      | 609      |
| 16:00       | 703        | 782        | 529        | 763        | 739        | 531        | 412        | 703      | 637      |
| 17:00       | 800        | 920        | 608        | 838        | 834        | 628        | 546        | 800      | 739      |
| 18:00       | 866        | 942        | 798        | 868        | 857        | 663        | 554        | 866      | 793      |
| 19:00       | 980        | 1.043      | 864        | 960        | 1.052      | 770        | 646        | 980      | 902      |
| 20:00       | 951        | 994        | 902        | 917        | 992        | 865        | 735        | 951      | 908      |
| 21:00       | 824        | 867        | 722        | 712        | 878        | 843        | 713        | 801      | 794      |
| 22:00       | 575        | 671        | 498        | 560        | 605        | 611        | 519        | 582      | 577      |
| 23:00       | 297        | 429        | 281        | 328        | 387        | 384        | 326        | 344      | 347      |
| 12h, 7-19   | 8.975      | 9.899      | 7.162      | 9.379      | 9.461      | 7.820      | 6.524      | 8.975    | 8.460    |
| 16h, 6-22   | 11.911     | 12.985     | 9.797      | 12.164     | 12.581     | 10.412     | 8.718      | 11.888   | 11.224   |
| 18h, 6-24   | 12.783     | 14.085     | 10.576     | 13.052     | 13.573     | 11.407     | 9.564      | 12.814   | 12.149   |
| 24h, 0-24   | 13.444     | 14.590     | 11.499     | 13.732     | 14.107     | 12.273     | 10.528     | 13.474   | 12.882   |
| AM          | 11:00      | 11:00      | 11:00      | 11:00      | 11:00      | 11:00      | 11:00      | 11:00    | 11:00    |
| Valor Punta | 925        | 1.018      | 694        | 998        | 991        | 877        | 745        | 925      | 893      |
| PM          | 12:00      | 13:00      | 12:00      | 12:00      | 19:00      | 12:00      | 12:00      | 12:00    | 12:00    |
| Valor Punta | 983        | 1.052      | 906        | 1.029      | 1.052      | 1.022      | 869        | 983      | 972      |

### 9.1.1. Gráficos de volumen de vehículos –Total



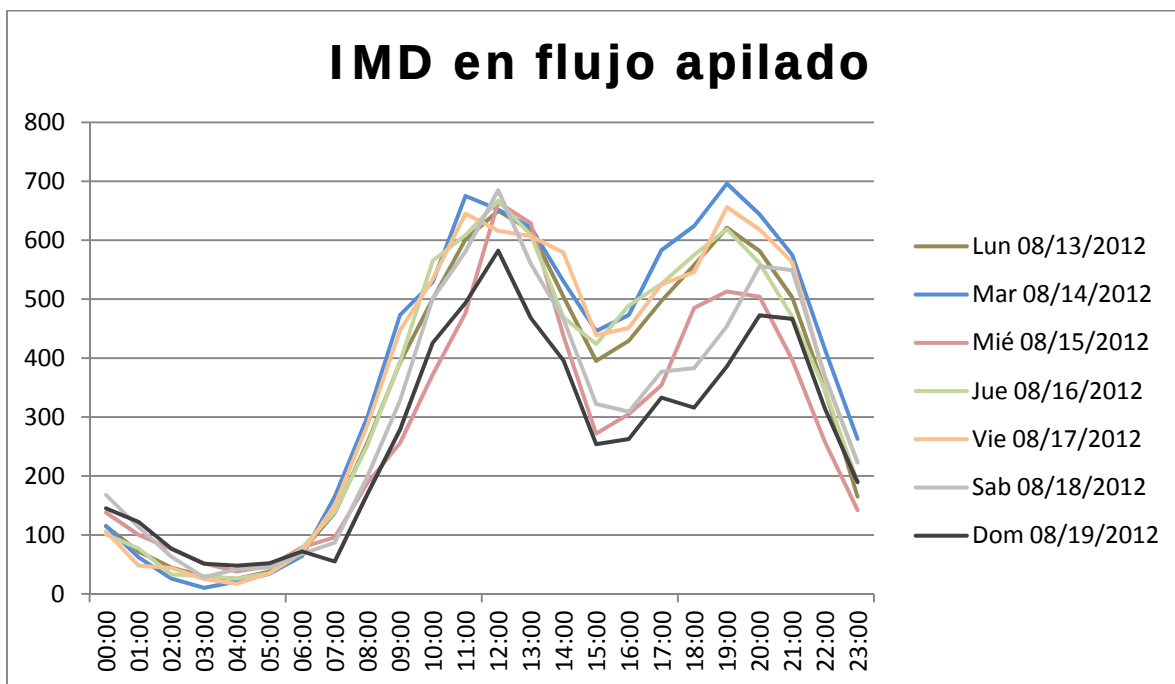
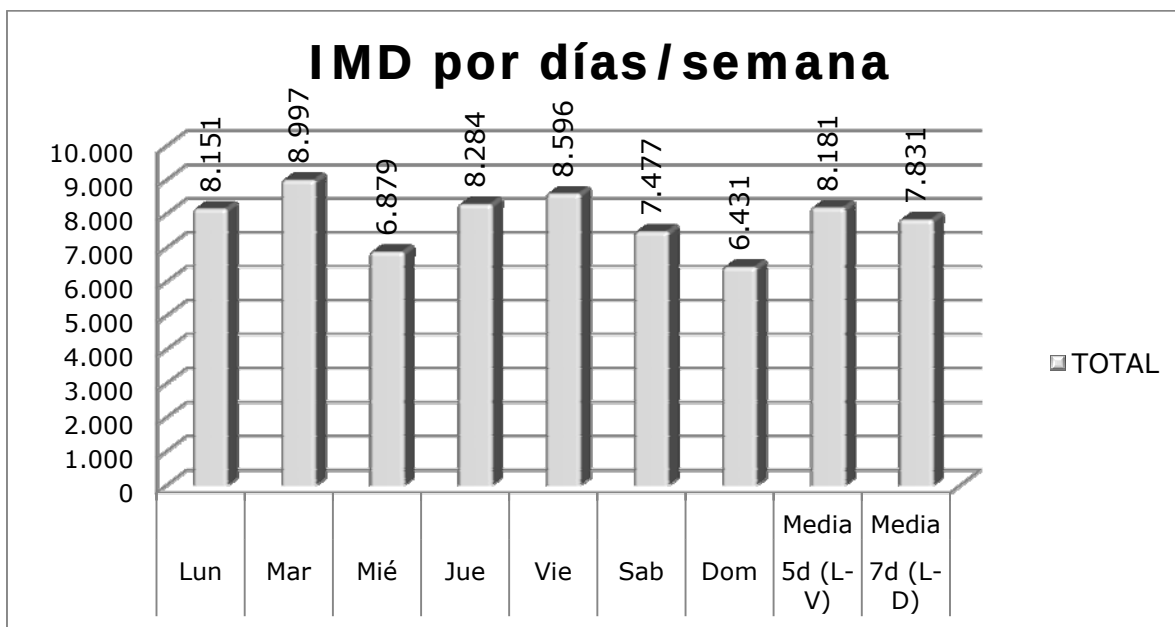


## 9.2. Volumen de vehículos – Sentido A

|             | Lun        | Mar        | Mié        | Jue        | Vie        | Sab        | Dom        | 5d (L-V) | 7d (L-D) |
|-------------|------------|------------|------------|------------|------------|------------|------------|----------|----------|
|             | 08/13/2012 | 08/14/2012 | 08/15/2012 | 08/16/2012 | 08/17/2012 | 08/18/2012 | 08/19/2012 | Media    | Media    |
| 00:00       | 115        | 115        | 138        | 101        | 106        | 168        | 145        | 115      | 127      |
| 01:00       | 72         | 62         | 100        | 77         | 48         | 113        | 122        | 72       | 85       |
| 02:00       | 45         | 26         | 76         | 33         | 44         | 63         | 77         | 45       | 52       |
| 03:00       | 29         | 10         | 52         | 30         | 25         | 28         | 51         | 29       | 32       |
| 04:00       | 26         | 21         | 38         | 26         | 17         | 42         | 48         | 26       | 31       |
| 05:00       | 38         | 34         | 47         | 35         | 35         | 45         | 52         | 38       | 41       |
| 06:00       | 73         | 64         | 79         | 78         | 70         | 68         | 72         | 73       | 72       |
| 07:00       | 138        | 165        | 96         | 139        | 150        | 87         | 55         | 138      | 119      |
| 08:00       | 257        | 300        | 188        | 252        | 286        | 199        | 169        | 257      | 236      |
| 09:00       | 393        | 473        | 256        | 394        | 447        | 328        | 279        | 393      | 367      |
| 10:00       | 500        | 529        | 372        | 565        | 534        | 501        | 426        | 500      | 490      |
| 11:00       | 601        | 675        | 476        | 609        | 645        | 581        | 494        | 601      | 583      |
| 12:00       | 650        | 652        | 664        | 667        | 616        | 685        | 582        | 650      | 645      |
| 13:00       | 617        | 622        | 629        | 609        | 607        | 560        | 468        | 617      | 587      |
| 14:00       | 504        | 530        | 438        | 469        | 579        | 466        | 396        | 504      | 483      |
| 15:00       | 395        | 446        | 272        | 424        | 439        | 322        | 254        | 395      | 365      |
| 16:00       | 430        | 473        | 305        | 489        | 451        | 309        | 263        | 430      | 388      |
| 17:00       | 497        | 583        | 354        | 526        | 525        | 377        | 333        | 497      | 456      |
| 18:00       | 558        | 624        | 485        | 575        | 546        | 383        | 316        | 558      | 498      |
| 19:00       | 621        | 696        | 513        | 619        | 656        | 454        | 386        | 621      | 564      |
| 20:00       | 582        | 644        | 504        | 561        | 618        | 556        | 473        | 582      | 562      |
| 21:00       | 503        | 575        | 397        | 470        | 563        | 549        | 467        | 502      | 503      |
| 22:00       | 346        | 415        | 258        | 346        | 366        | 370        | 315        | 346      | 345      |
| 23:00       | 165        | 263        | 142        | 190        | 223        | 223        | 190        | 197      | 199      |
|             |            |            |            |            |            |            |            |          |          |
| 12h, 7-19   | 5.538      | 6.072      | 4.535      | 5.718      | 5.825      | 4.798      | 4.035      | 5.538    | 5.217    |
| 16h, 6-22   | 7.316      | 8.051      | 6.028      | 7.446      | 7.732      | 6.425      | 5.432      | 7.315    | 6.919    |
| 18h, 6-24   | 7.827      | 8.729      | 6.428      | 7.982      | 8.321      | 7.018      | 5.936      | 7.857    | 7.463    |
| 24h, 0-24   | 8.151      | 8.997      | 6.879      | 8.284      | 8.596      | 7.477      | 6.431      | 8.181    | 7.831    |
|             |            |            |            |            |            |            |            |          |          |
| AM          | 11:00      | 11:00      | 11:00      | 11:00      | 11:00      | 11:00      | 11:00      | 11:00    | 11:00    |
| Valor Punta | 601        | 675        | 476        | 609        | 645        | 581        | 494        | 601      | 583      |
|             |            |            |            |            |            |            |            |          |          |
| PM          | 12:00      | 12:00      | 12:00      | 12:00      | 19:00      | 12:00      | 12:00      | 12:00    | 12:00    |
| Valor Punta | 650        | 652        | 664        | 667        | 656        | 685        | 582        | 650      | 645      |



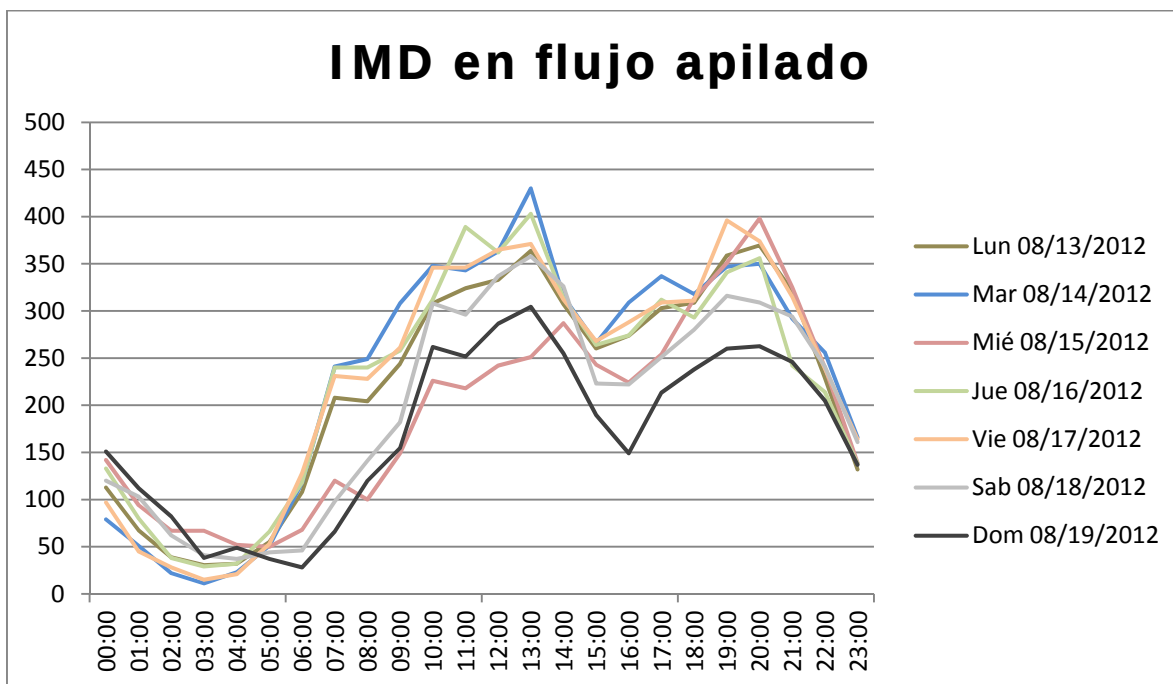
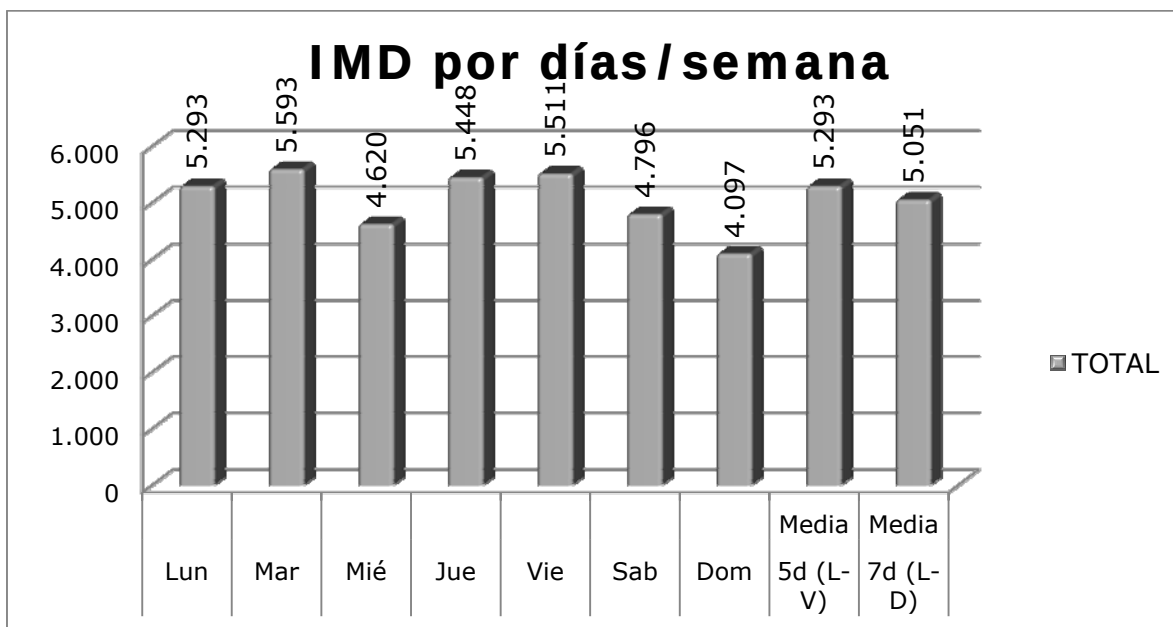
### 9.2.1. Gráficos de volumen de vehículos –Sentido A



### 9.3. Volumen de vehículos – Sentido B

|             | Lun        | Mar        | Mié        | Jue        | Vie        | Sab        | Dom        | 5d (L-V) | 7d (L-D) |
|-------------|------------|------------|------------|------------|------------|------------|------------|----------|----------|
|             | 08/13/2012 | 08/14/2012 | 08/15/2012 | 08/16/2012 | 08/17/2012 | 08/18/2012 | 08/19/2012 | Media    | Media    |
| 00:00       | 113        | 79         | 142        | 133        | 97         | 120        | 151        | 113      | 119      |
| 01:00       | 68         | 51         | 94         | 80         | 45         | 103        | 112        | 68       | 79       |
| 02:00       | 39         | 22         | 67         | 38         | 28         | 62         | 82         | 39       | 48       |
| 03:00       | 31         | 11         | 67         | 29         | 15         | 41         | 38         | 31       | 33       |
| 04:00       | 32         | 23         | 52         | 32         | 21         | 37         | 49         | 32       | 35       |
| 05:00       | 55         | 51         | 50         | 66         | 53         | 44         | 37         | 55       | 51       |
| 06:00       | 108        | 118        | 68         | 118        | 128        | 46         | 28         | 108      | 88       |
| 07:00       | 208        | 241        | 120        | 240        | 231        | 98         | 66         | 208      | 172      |
| 08:00       | 204        | 249        | 100        | 240        | 228        | 141        | 120        | 204      | 183      |
| 09:00       | 244        | 308        | 149        | 258        | 261        | 182        | 155        | 244      | 222      |
| 10:00       | 308        | 348        | 226        | 312        | 346        | 308        | 262        | 308      | 301      |
| 11:00       | 324        | 343        | 218        | 389        | 346        | 296        | 252        | 324      | 310      |
| 12:00       | 333        | 363        | 242        | 362        | 365        | 337        | 286        | 333      | 327      |
| 13:00       | 364        | 430        | 251        | 403        | 371        | 358        | 304        | 364      | 354      |
| 14:00       | 307        | 315        | 287        | 314        | 312        | 326        | 255        | 307      | 302      |
| 15:00       | 260        | 266        | 243        | 264        | 268        | 223        | 190        | 260      | 245      |
| 16:00       | 274        | 309        | 224        | 274        | 288        | 222        | 149        | 274      | 249      |
| 17:00       | 303        | 337        | 254        | 312        | 309        | 251        | 213        | 303      | 283      |
| 18:00       | 309        | 318        | 313        | 293        | 311        | 280        | 238        | 309      | 295      |
| 19:00       | 359        | 347        | 351        | 341        | 396        | 316        | 260        | 359      | 339      |
| 20:00       | 370        | 350        | 398        | 356        | 374        | 309        | 263        | 370      | 346      |
| 21:00       | 321        | 292        | 325        | 242        | 315        | 294        | 246        | 299      | 291      |
| 22:00       | 229        | 256        | 240        | 214        | 239        | 241        | 205        | 236      | 232      |
| 23:00       | 132        | 166        | 139        | 138        | 164        | 161        | 137        | 148      | 148      |
| 12h, 7-19   | 3.438      | 3.827      | 2.627      | 3.661      | 3.636      | 3.022      | 2.490      | 3.438    | 3.243    |
| 16h, 6-22   | 4.595      | 4.934      | 3.769      | 4.718      | 4.849      | 3.987      | 3.286      | 4.573    | 4.305    |
| 18h, 6-24   | 4.956      | 5.356      | 4.148      | 5.070      | 5.252      | 4.389      | 3.628      | 4.956    | 4.686    |
| 24h, 0-24   | 5.293      | 5.593      | 4.620      | 5.448      | 5.511      | 4.796      | 4.097      | 5.293    | 5.051    |
| AM          | 11:00      | 10:00      | 10:00      | 11:00      | 11:00      | 10:00      | 10:00      | 11:00    | 11:00    |
| Valor Punta | 324        | 348        | 226        | 389        | 346        | 308        | 262        | 324      | 310      |
| PM          | 20:00      | 13:00      | 20:00      | 13:00      | 19:00      | 13:00      | 13:00      | 20:00    | 13:00    |
| Valor Punta | 370        | 430        | 398        | 403        | 396        | 358        | 304        | 370      | 354      |

### 9.3.1. Gráficos de volumen de vehículos –Sentido B



## 9.4. Clases de vehículos

### 9.4.1. Esquema de clasificación FHWA

| Ejes     | Grupos | Descripción                                     | Clase | Parámetros                                                                                               | Vehículo Dominante                                                                                                                                                         | Conjunto   |
|----------|--------|-------------------------------------------------|-------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 2        | 1      | Bicicleta o Moto                                | 1     | $d(1) < 1.7\text{m}$ & Ejes=2                                                                            |                                                                                         | 1 (Ligero) |
| 2, 3 o 4 | 1 o 2  | Turismo, Furgoneta ligera                       | 2     | $d(1) \geq 1.7\text{m}$ ,<br>$d(1) \leq 3.2\text{m}$ & Ejes=2                                            | <br> |            |
| 2, 3 o 4 | 1      | Caravana, Remolque, etc. Pick-ups y furgonetas. | 3     | grupos=3, $d(1) \geq 2.1\text{m}$ ,<br>$d(1) \leq 3.2\text{m}$ ,<br>$d(2) \geq 2.1\text{m}$ & Ejes=3,4,5 |                                                                                         |            |
| 2 o 3    | 1      | Bus                                             | 5     | $d(1) > 3.2\text{m}$ & Ejes=2                                                                            |                                                                                         | 2 (Medio)  |
| 2        | 1      | Camión rígido de dos ejes                       | 3     | Ejes=2 & grupos=1                                                                                        |                                                                                       |            |
| 3        | 1      | Camión rígido de tres ejes                      | 4     | Ejes>3 & grupos=2                                                                                        |                                                                                       |            |
| 4        | 1      | Camión articulado rígido de tres ejes           | 4     | $d(1) > 3.2\text{m}$ , Ejes=3 & grupos=4                                                                 |                                                                                       | 3 (Pesado) |
| 2 o 4    | 2      | Camión articulado rígido de cuatro ejes         | 5     | $d(2) < 2.1\text{m}$ o $d(1) < 2.1\text{m}$<br>o $d(1) > 3.2\text{m}$<br>Ejes = 4 & grupos>2             |                                                                                       |            |
| 5 o 6    | 2      | Camión articulado rígido de cinco ejes          | 5     | $d(2) < 2.1\text{m}$ o $d(1) < 2.1\text{m}$<br>o $d(1) > 3.2\text{m}$<br>Ejes=5 & grupos>2               |                                                                                       |            |
| 6 o 7    | 2      | Camión articulado rígido de seis ejes (o más)   | 5     | Ejes=6 & grupos>2 o<br>Ejes>6 & grupos=3                                                                 |                                                                                       |            |
| 5        | 3      | Camion con remolque                             | 5     | grupos=4 & Ejes>6                                                                                        |                                                                                       |            |
| 6        | 3      | Camion con remolque                             | 5     | grupos>=5 & Ejes>6                                                                                       |                                                                                       |            |
| 7        | >3     | Camión con remolque                             | 5     |                                                                                                          |                                                                                       |            |

Clase para vehículos inclasificables: 13

### 9.4.2. Clases de vehículos absolutos3

|       | Total | Bin 1  | Bin 2   | Bin 3   | Bin 4    | Bin 5 |
|-------|-------|--------|---------|---------|----------|-------|
|       | Vol.  | <=2,8m | 2,8-5,2 | 5,2-6,5 | 6,5-11,5 | >11,5 |
| 00:00 | 246   | 20     | 204     | 20      | 2        | 0     |
| 01:00 | 164   | 11     | 140     | 12      | 1        | 0     |
| 02:00 | 100   | 8      | 83      | 9       | 1        | 0     |
| 03:00 | 65    | 5      | 52      | 8       | 1        | 0     |
| 04:00 | 66    | 4      | 55      | 6       | 1        | 0     |
| 05:00 | 92    | 4      | 79      | 7       | 2        | 0     |
| 06:00 | 160   | 6      | 140     | 10      | 3        | 1     |
| 07:00 | 291   | 16     | 246     | 23      | 4        | 2     |
| 08:00 | 419   | 26     | 339     | 44      | 6        | 3     |
| 09:00 | 589   | 39     | 472     | 65      | 10       | 3     |
| 10:00 | 791   | 57     | 622     | 90      | 15       | 6     |
| 11:00 | 893   | 66     | 694     | 110     | 17       | 6     |
| 12:00 | 972   | 71     | 747     | 128     | 20       | 6     |
| 13:00 | 942   | 70     | 745     | 106     | 15       | 6     |
| 14:00 | 785   | 58     | 627     | 83      | 13       | 4     |
| 15:00 | 609   | 50     | 484     | 63      | 9        | 3     |
| 16:00 | 637   | 46     | 511     | 68      | 10       | 3     |
| 17:00 | 739   | 48     | 588     | 86      | 12       | 5     |
| 18:00 | 793   | 50     | 618     | 107     | 14       | 4     |
| 19:00 | 902   | 54     | 698     | 124     | 20       | 6     |
| 20:00 | 908   | 57     | 701     | 126     | 18       | 6     |
| 21:00 | 794   | 53     | 616     | 105     | 15       | 5     |
| 22:00 | 577   | 41     | 449     | 73      | 10       | 3     |
| 23:00 | 347   | 30     | 279     | 35      | 3        | 1     |

#### Totales

|          |        |     |        |       |     |    |
|----------|--------|-----|--------|-------|-----|----|
| 12H,7-19 | 8.460  | 597 | 6.694  | 973   | 145 | 51 |
| 16H,6-22 | 11.224 | 767 | 8.849  | 1.339 | 200 | 69 |
| 18H,6-24 | 12.149 | 838 | 9.577  | 1.446 | 214 | 73 |
| 24H,0-24 | 12.882 | 890 | 10.190 | 1.507 | 222 | 73 |

|             |       |       |       |       |       |       |
|-------------|-------|-------|-------|-------|-------|-------|
| AM          | 11:00 | 11:00 | 11:00 | 11:00 | 11:00 | 10:00 |
| Valor Punta | 893   | 66    | 694   | 110   | 17    | 6     |

|             |       |       |       |       |       |       |
|-------------|-------|-------|-------|-------|-------|-------|
| PM          | 12:00 | 12:00 | 13:00 | 12:00 | 19:00 | 12:00 |
| Valor Punta | 972   | 71    | 747   | 128   | 20    | 6     |

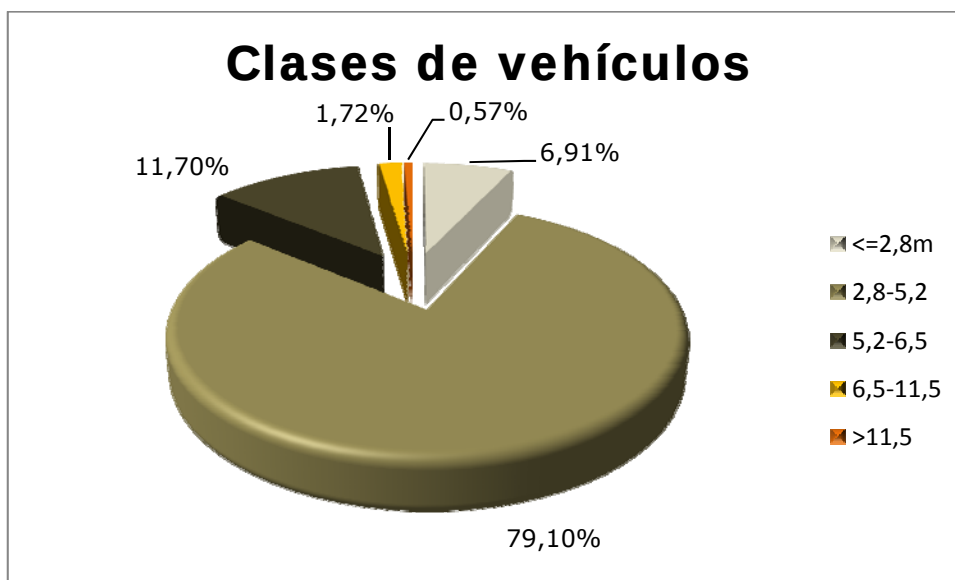
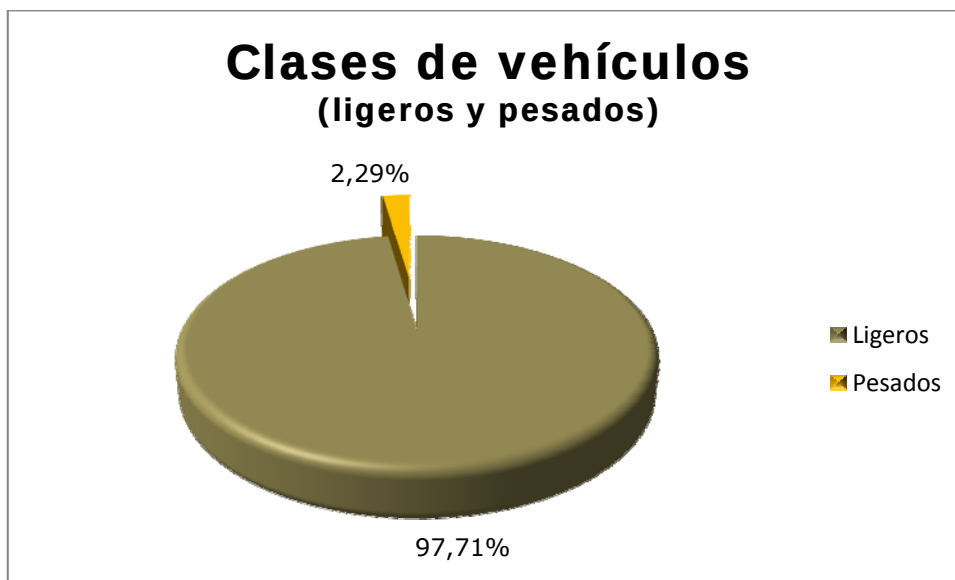
### 9.4.3. Clases de vehículos porcentuales

|       | Total | Bin 1  | Bin 2   | Bin 3   | Bin 4    | Bin 5 |
|-------|-------|--------|---------|---------|----------|-------|
|       | Vol.  | <=2,8m | 2,8-5,2 | 5,2-6,5 | 6,5-11,5 | >11,5 |
| 00:00 | 88    | 2,05%  | 55,23%  | 38,18%  | 2,37%    | 2,17% |
| 01:00 | 39    | 2,78%  | 53,44%  | 42,30%  | 0,97%    | 0,51% |
| 02:00 | 31    | 2,89%  | 53,89%  | 42,34%  | 0,00%    | 0,87% |
| 03:00 | 19    | 3,03%  | 51,52%  | 45,45%  | 0,00%    | 0,00% |
| 04:00 | 26    | 1,16%  | 41,86%  | 56,98%  | 0,00%    | 0,00% |
| 05:00 | 56    | 2,30%  | 27,64%  | 68,53%  | 1,00%    | 0,52% |
| 06:00 | 111   | 2,04%  | 31,60%  | 64,56%  | 1,18%    | 0,62% |
| 07:00 | 137   | 2,35%  | 37,98%  | 57,61%  | 1,67%    | 0,39% |
| 08:00 | 141   | 3,50%  | 46,25%  | 48,38%  | 1,52%    | 0,35% |
| 09:00 | 169   | 2,89%  | 55,67%  | 39,37%  | 1,92%    | 0,15% |
| 10:00 | 199   | 4,56%  | 59,91%  | 32,66%  | 2,60%    | 0,26% |
| 11:00 | 220   | 4,73%  | 62,86%  | 29,62%  | 2,54%    | 0,25% |
| 12:00 | 211   | 5,47%  | 63,99%  | 26,80%  | 3,01%    | 0,73% |
| 13:00 | 253   | 4,98%  | 64,45%  | 27,13%  | 3,23%    | 0,21% |
| 14:00 | 249   | 4,63%  | 63,41%  | 29,11%  | 2,65%    | 0,21% |
| 15:00 | 239   | 3,30%  | 62,98%  | 31,25%  | 2,36%    | 0,11% |
| 16:00 | 229   | 3,61%  | 57,10%  | 36,70%  | 2,49%    | 0,11% |
| 17:00 | 275   | 4,11%  | 61,37%  | 31,89%  | 2,42%    | 0,22% |
| 18:00 | 227   | 4,59%  | 63,36%  | 29,02%  | 2,70%    | 0,34% |
| 19:00 | 242   | 5,41%  | 64,96%  | 25,91%  | 3,14%    | 0,59% |
| 20:00 | 164   | 5,76%  | 66,08%  | 24,86%  | 3,03%    | 0,28% |
| 21:00 | 163   | 4,76%  | 65,15%  | 27,88%  | 1,95%    | 0,25% |
| 22:00 | 143   | 3,08%  | 64,77%  | 29,87%  | 1,84%    | 0,44% |
| 23:00 | 97    | 2,59%  | 55,69%  | 37,81%  | 2,03%    | 1,88% |

#### Totals

|          |       |         |        |        |         |       |
|----------|-------|---------|--------|--------|---------|-------|
| 12H,7-19 | 2.550 | 4,16%   | 59,58% | 33,50% | 2,50%   | 0,27% |
| 16H,6-22 | 3.231 | 4,29%   | 59,63% | 33,27% | 2,50%   | 0,30% |
| 18H,6-24 | 3.471 | 4,20%   | 59,73% | 33,26% | 2,46%   | 0,35% |
| 24H,0-24 | 3.729 | 4,06%   | 58,87% | 34,30% | 2,37%   | 0,40% |
|          |       | Ligeros |        |        | Pesados |       |
| Am       | 11:00 | 11:00   | 11:00  | 07:00  | 11:00   | 00:00 |
| Peak     | 220   | 10      | 138    | 79     | 6       | 2     |
| Am       | 17:00 | 13:00   | 17:00  | 17:00  | 19:00   | 23:00 |
| Peak     | 275   | 13      | 169    | 88     | 8       | 2     |

#### 9.4.4. Gráficos de clases de vehículos



## 9.5. Velocidades

|             | Total | 85th  | Mean  | Std.  | Bin 1 | Bin 2 | Bin 3  | Bin 4  | Bin 5  | Bin 6  | Bin 7  | Bin 8  | Bin 9  | Bin 10 | Bin 11 | Bin 12 | Bin 13 |
|-------------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|             | Vol.  | %ile  | Ave.  | Dev.  | <6Kph | 6-<11 | 11-<16 | 16-<21 | 21-<26 | 26-<31 | 31-<36 | 36-<41 | 41-<46 | 46-<51 | 51-<56 | 56-<61 | ≥61    |
| 00:00       | 246   | 316   | 26,7  | 5,3   | 0     | 0     | 0      | 22     | 98     | 86     | 31     | 8      | 1      | 0      | 0      | 0      | 0      |
| 01:00       | 164   | 32,7  | 27,4  | 5,3   | 0     | 0     | 0      | 10     | 61     | 60     | 24     | 7      | 3      | 0      | 0      | 0      | 0      |
| 02:00       | 100   | 33,1  | 27,8  | 6,2   | 0     | 0     | 0      | 7      | 36     | 39     | 12     | 4      | 2      | 0      | 0      | 0      | 0      |
| 03:00       | 65    | 34,4  | 28,0  | 6,6   | 0     | 0     | 0      | 4      | 23     | 21     | 13     | 4      | 0      | 0      | 0      | 0      | 0      |
| 04:00       | 66    | 34,1  | 28,2  | 5,8   | 0     | 0     | 0      | 4      | 17     | 26     | 14     | 4      | 1      | 0      | 0      | 0      | 0      |
| 05:00       | 92    | 34,8  | 29,0  | 5,9   | 0     | 0     | 1      | 4      | 23     | 34     | 22     | 7      | 0      | 0      | 0      | 0      | 0      |
| 06:00       | 160   | 34,3  | 28,6  | 6,1   | 0     | 0     | 3      | 8      | 37     | 67     | 33     | 8      | 3      | 0      | 0      | 0      | 0      |
| 07:00       | 291   | 33,2  | 27,9  | 5,4   | 0     | 0     | 3      | 14     | 87     | 123    | 49     | 13     | 2      | 0      | 0      | 0      | 0      |
| 08:00       | 419   | 318   | 27,2  | 5,0   | 0     | 0     | 5      | 19     | 144    | 179    | 58     | 11     | 2      | 0      | 0      | 0      | 0      |
| 09:00       | 589   | 30,6  | 26,3  | 4,9   | 0     | 0     | 6      | 47     | 227    | 243    | 55     | 9      | 2      | 0      | 0      | 0      | 0      |
| 10:00       | 791   | 29,6  | 24,7  | 4,9   | 0     | 1     | 26     | 106    | 372    | 231    | 47     | 6      | 2      | 0      | 0      | 0      | 0      |
| 11:00       | 893   | 28,9  | 24,0  | 4,9   | 0     | 0     | 28     | 172    | 438    | 206    | 41     | 6      | 1      | 1      | 0      | 0      | 0      |
| 12:00       | 972   | 28,8  | 23,8  | 4,9   | 0     | 5     | 32     | 200    | 468    | 217    | 42     | 7      | 1      | 0      | 0      | 0      | 0      |
| 13:00       | 942   | 29,6  | 24,8  | 4,8   | 0     | 0     | 19     | 138    | 448    | 270    | 56     | 9      | 2      | 0      | 0      | 0      | 0      |
| 14:00       | 785   | 30,5  | 25,8  | 5,0   | 0     | 2     | 11     | 90     | 329    | 259    | 77     | 15     | 2      | 0      | 0      | 0      | 0      |
| 15:00       | 609   | 319   | 27,0  | 5,2   | 0     | 1     | 4      | 39     | 226    | 233    | 79     | 21     | 6      | 1      | 0      | 0      | 0      |
| 16:00       | 637   | 30,5  | 26,1  | 5,0   | 0     | 1     | 8      | 54     | 265    | 235    | 56     | 13     | 4      | 1      | 0      | 0      | 0      |
| 17:00       | 739   | 29,7  | 25,1  | 4,8   | 0     | 2     | 11     | 87     | 366    | 218    | 44     | 8      | 3      | 0      | 0      | 0      | 0      |
| 18:00       | 793   | 29,2  | 24,5  | 4,6   | 0     | 0     | 12     | 131    | 401    | 203    | 38     | 8      | 0      | 0      | 0      | 0      | 0      |
| 19:00       | 902   | 28,5  | 23,7  | 4,6   | 0     | 2     | 16     | 199    | 453    | 195    | 32     | 4      | 1      | 0      | 0      | 0      | 0      |
| 20:00       | 908   | 28,8  | 24,1  | 4,7   | 0     | 5     | 16     | 162    | 475    | 204    | 37     | 9      | 1      | 0      | 0      | 0      | 0      |
| 21:00       | 794   | 28,8  | 24,2  | 4,6   | 0     | 0     | 10     | 149    | 414    | 180    | 33     | 7      | 2      | 0      | 0      | 0      | 0      |
| 22:00       | 577   | 29,7  | 24,9  | 4,9   | 0     | 0     | 10     | 87     | 279    | 157    | 35     | 10     | 0      | 0      | 0      | 0      | 0      |
| 23:00       | 347   | 30,7  | 26,2  | 5,0   | 0     | 0     | 1      | 38     | 146    | 118    | 33     | 9      | 3      | 0      | 0      | 0      | 0      |
| Totales     |       |       |       |       |       |       |        |        |        |        |        |        |        |        |        |        |        |
| 12H,7-19    | 8460  | 33,2  | 27,9  | 5,4   | 0     | 12    | 162    | 1096   | 3771   | 2617   | 643    | 126    | 29     | 3      | 0      | 0      | 0      |
| 16H,6-22    | 11224 | 319   | 27,2  | 5,2   | 0     | 19    | 207    | 1614   | 5151   | 3263   | 778    | 154    | 36     | 3      | 0      | 0      | 0      |
| 18H,6-24    | 12149 | 319   | 27,0  | 5,2   | 0     | 19    | 218    | 1739   | 5575   | 3538   | 845    | 173    | 39     | 3      | 0      | 0      | 0      |
| 24H,0-24    | 12882 | 319   | 27,0  | 5,2   | 0     | 19    | 219    | 1790   | 5833   | 3805   | 960    | 207    | 46     | 3      | 0      | 0      | 0      |
| AM          | 11:00 | 05:00 | 05:00 | 03:00 | 11:00 | 10:00 | 11:00  | 11:00  | 11:00  | 09:00  | 08:00  | 11:00  | 06:00  | 11:00  | 11:00  | 11:00  | 11:00  |
| Valor Punta | 893   | 34,8  | 29,0  | 6,6   | 0     | 1     | 28     | 172    | 438    | 243    | 58     | 6      | 3      | 1      | 0      | 0      | 0      |
| PM          | 12:00 | 15:00 | 15:00 | 15:00 | 23:00 | 20:00 | 12:00  | 12:00  | 20:00  | 13:00  | 15:00  | 15:00  | 15:00  | 16:00  | 23:00  | 23:00  | 23:00  |
| Valor Punta | 972   | 319   | 27,0  | 5,2   | 0     | 5     | 32     | 200    | 475    | 270    | 79     | 21     | 6      | 1      | 0      | 0      | 0      |



## 10. Datos del aforo 04

**Duración de los Aforos:**

00:00 lunes, 13 de septiembre 2012 => 23:00 domingo, 19 de septiembre 2012

**Identificador:**

Vectio TN-04 (Tubo Neumático)

**Tipo de Datos:**

Sensores de Ejes - En Pares (Clase, Velocidad, Recuento)

**Clases Incluidas:**

1, 2, 3, 4, 5

**Esquema:**

Clasificación Vehicular (FHWA)

**Intervalo de Velocidades:**

10 - 200 km/h.

**Sentido de Circulación:**

1: A-B = Ascendente (Entrada a Castro Urdiales)

2: B-A = Descendente (Salida de Castro Urdiales)

**Separación:**

Todos - (Intervalo Vehicular)

**Unidades:**

Métrico (metro, kilómetro, m/s, km/h, kg, Tonelada Métrica (kg))

**Localización del aforador:**

Carretera de Samano

**Localización geográfica:**

N 43°22'04.78"

O 3°12'58.78"

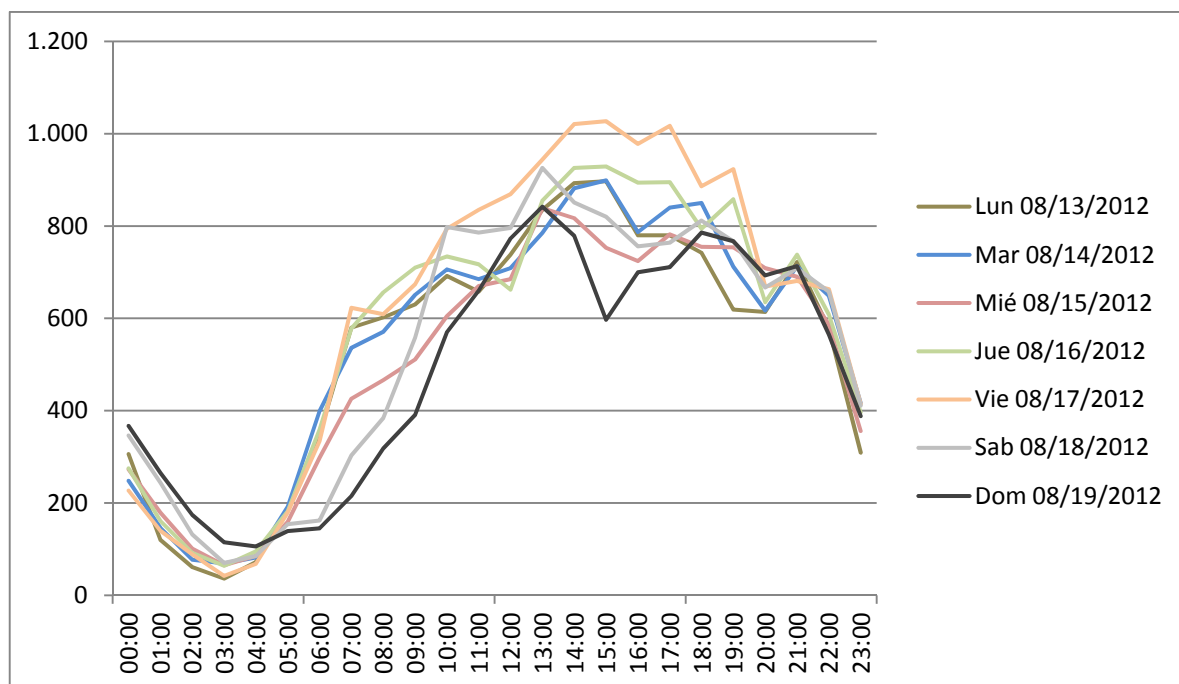
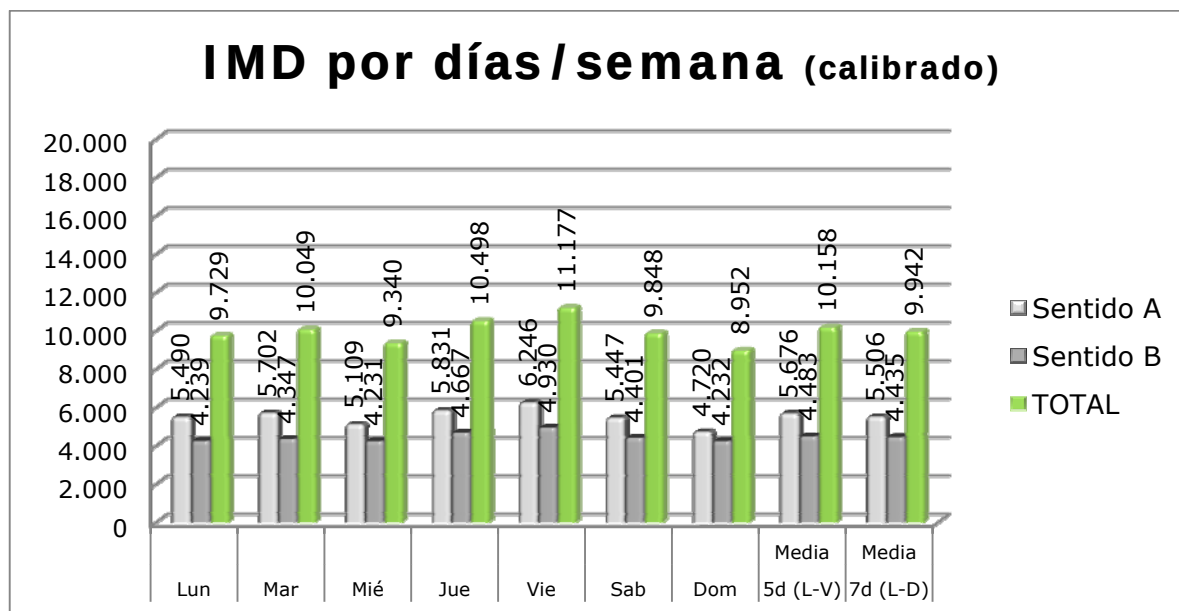
**Imagen**

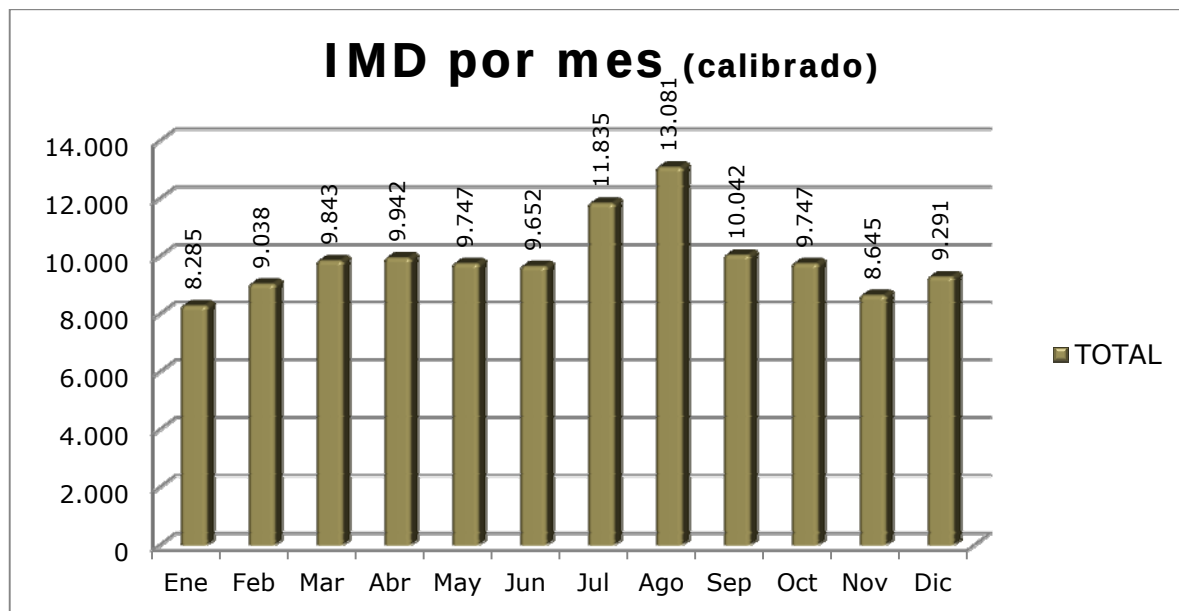


## 10.1. Volumen de vehículos – Total

|             | Lun        | Mar        | Mié        | Jue        | Vie        | Sab        | Dom        | 5d (L-V) | 7d (L-D) |
|-------------|------------|------------|------------|------------|------------|------------|------------|----------|----------|
|             | 08/13/2012 | 08/14/2012 | 08/15/2012 | 08/16/2012 | 08/17/2012 | 08/18/2012 | 08/19/2012 | Media    | Media    |
| 00:00       | 306        | 248        | 273        | 275        | 227        | 346        | 367        | 266      | 292      |
| 01:00       | 120        | 146        | 179        | 161        | 140        | 244        | 265        | 149      | 179      |
| 02:00       | 61         | 77         | 101        | 92         | 89         | 132        | 174        | 84       | 104      |
| 03:00       | 36         | 69         | 65         | 64         | 42         | 70         | 115        | 55       | 66       |
| 04:00       | 72         | 82         | 85         | 95         | 68         | 85         | 106        | 80       | 85       |
| 05:00       | 188        | 192        | 159        | 182        | 179        | 154        | 139        | 180      | 170      |
| 06:00       | 349        | 399        | 298        | 359        | 334        | 162        | 145        | 348      | 292      |
| 07:00       | 580        | 536        | 426        | 578        | 623        | 303        | 215        | 549      | 466      |
| 08:00       | 602        | 571        | 466        | 656        | 609        | 384        | 318        | 581      | 515      |
| 09:00       | 630        | 651        | 511        | 710        | 674        | 558        | 391        | 635      | 589      |
| 10:00       | 692        | 706        | 605        | 734        | 794        | 798        | 570        | 706      | 700      |
| 11:00       | 658        | 685        | 670        | 717        | 835        | 786        | 660        | 713      | 716      |
| 12:00       | 738        | 709        | 685        | 662        | 869        | 796        | 773        | 733      | 747      |
| 13:00       | 835        | 785        | 839        | 855        | 944        | 926        | 842        | 852      | 861      |
| 14:00       | 893        | 882        | 817        | 926        | 1.021      | 851        | 779        | 908      | 881      |
| 15:00       | 897        | 899        | 753        | 929        | 1.027      | 820        | 597        | 901      | 846      |
| 16:00       | 780        | 787        | 724        | 894        | 978        | 756        | 700        | 833      | 803      |
| 17:00       | 780        | 840        | 782        | 895        | 1.017      | 764        | 711        | 863      | 827      |
| 18:00       | 742        | 850        | 755        | 794        | 886        | 812        | 786        | 805      | 804      |
| 19:00       | 619        | 712        | 754        | 858        | 923        | 767        | 767        | 773      | 771      |
| 20:00       | 614        | 617        | 709        | 635        | 669        | 667        | 693        | 649      | 658      |
| 21:00       | 722        | 713        | 690        | 738        | 681        | 708        | 713        | 709      | 709      |
| 22:00       | 578        | 649        | 587        | 608        | 663        | 658        | 565        | 617      | 615      |
| 23:00       | 309        | 417        | 356        | 396        | 414        | 411        | 388        | 378      | 384      |
| 12h, 7-19   | 8.827      | 8.901      | 8.033      | 9.350      | 10.277     | 8.554      | 7.342      | 9.078    | 8.755    |
| 16h, 6-22   | 11.131     | 11.342     | 10.484     | 11.940     | 12.884     | 10.858     | 9.660      | 11.556   | 11.186   |
| 18h, 6-24   | 12.018     | 12.408     | 11.427     | 12.944     | 13.961     | 11.927     | 10.613     | 12.552   | 12.185   |
| 24h, 0-24   | 12.801     | 13.222     | 12.289     | 13.813     | 14.706     | 12.958     | 11.779     | 13.366   | 13.081   |
| AM          | 10:00      | 10:00      | 11:00      | 10:00      | 11:00      | 10:00      | 11:00      | 11:00    | 11:00    |
| Valor Punta | 692        | 706        | 670        | 734        | 835        | 798        | 660        | 713      | 716      |
| PM          | 15:00      | 15:00      | 13:00      | 15:00      | 15:00      | 13:00      | 13:00      | 14:00    | 14:00    |
| Valor Punta | 897        | 899        | 839        | 929        | 1.027      | 926        | 842        | 908      | 881      |

### 10.1.1. Gráficos de volumen de vehículos –Total

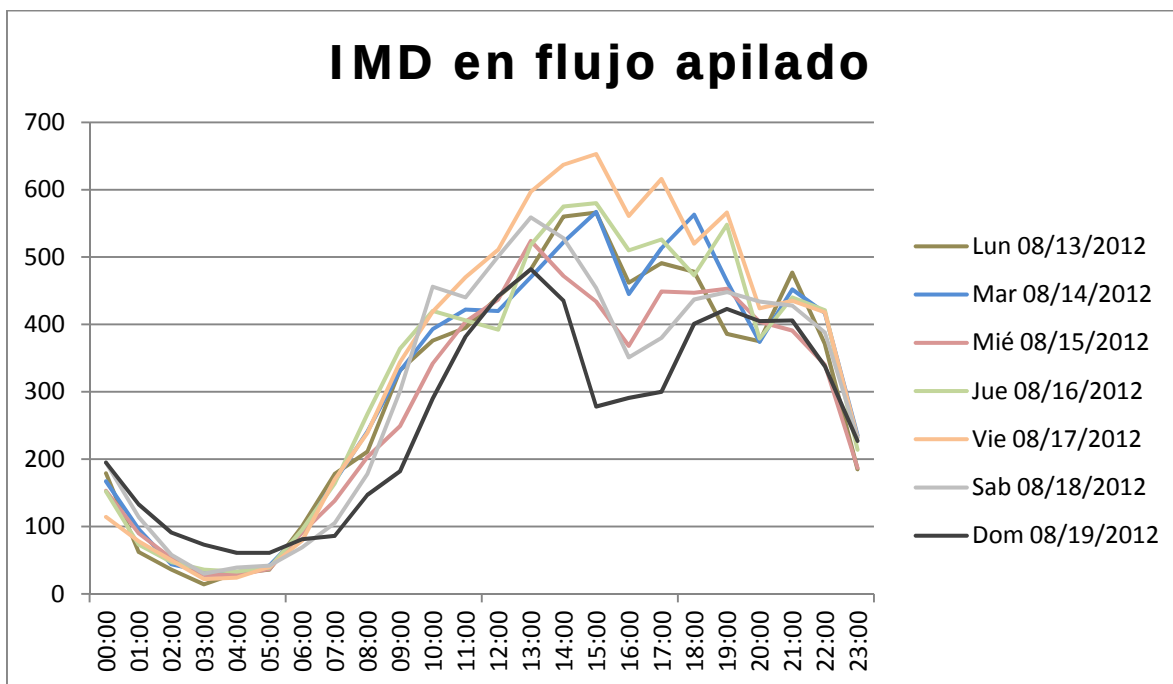
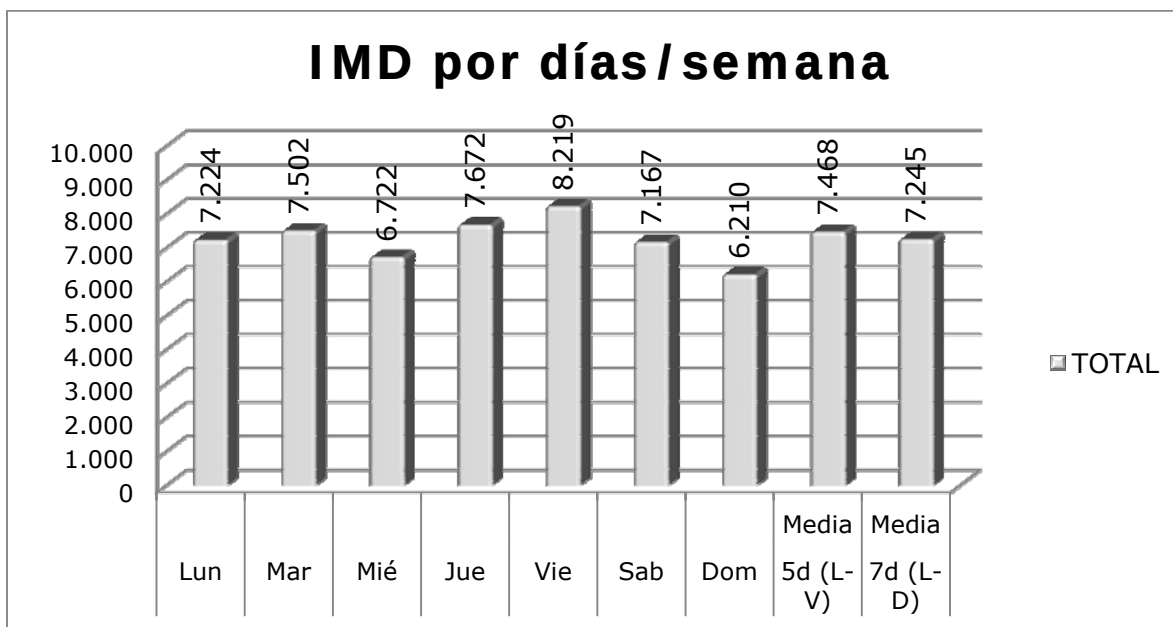




## 10.2. Volumen de vehículos – Sentido A

|             | Lun        | Mar        | Mié        | Jue        | Vie        | Sab        | Dom        | 5d (L-V) | 7d (L-D) |
|-------------|------------|------------|------------|------------|------------|------------|------------|----------|----------|
|             | 08/13/2012 | 08/14/2012 | 08/15/2012 | 08/16/2012 | 08/17/2012 | 08/18/2012 | 08/19/2012 | Media    | Media    |
| 00:00       | 179        | 167        | 153        | 152        | 114        | 195        | 195        | 153      | 165      |
| 01:00       | 62         | 96         | 90         | 73         | 78         | 114        | 133        | 80       | 92       |
| 02:00       | 36         | 44         | 53         | 47         | 50         | 58         | 91         | 46       | 54       |
| 03:00       | 14         | 33         | 28         | 36         | 22         | 30         | 73         | 27       | 34       |
| 04:00       | 31         | 32         | 28         | 33         | 24         | 39         | 61         | 30       | 35       |
| 05:00       | 36         | 42         | 37         | 39         | 40         | 42         | 61         | 39       | 42       |
| 06:00       | 100        | 92         | 91         | 95         | 79         | 69         | 81         | 91       | 87       |
| 07:00       | 178        | 167        | 138        | 164        | 170        | 105        | 86         | 163      | 144      |
| 08:00       | 211        | 241        | 203        | 267        | 239        | 178        | 147        | 232      | 212      |
| 09:00       | 332        | 331        | 249        | 364        | 344        | 301        | 182        | 324      | 300      |
| 10:00       | 376        | 393        | 342        | 420        | 419        | 456        | 290        | 390      | 385      |
| 11:00       | 395        | 422        | 404        | 406        | 470        | 440        | 382        | 419      | 417      |
| 12:00       | 441        | 420        | 437        | 392        | 511        | 501        | 442        | 440      | 449      |
| 13:00       | 482        | 470        | 524        | 518        | 597        | 559        | 482        | 518      | 519      |
| 14:00       | 560        | 522        | 472        | 575        | 637        | 528        | 435        | 553      | 533      |
| 15:00       | 566        | 567        | 434        | 580        | 653        | 454        | 278        | 560      | 505      |
| 16:00       | 462        | 445        | 368        | 510        | 561        | 351        | 291        | 469      | 427      |
| 17:00       | 491        | 513        | 449        | 526        | 616        | 380        | 300        | 519      | 468      |
| 18:00       | 478        | 563        | 447        | 473        | 520        | 437        | 401        | 496      | 474      |
| 19:00       | 386        | 464        | 453        | 548        | 566        | 448        | 423        | 483      | 470      |
| 20:00       | 375        | 374        | 404        | 379        | 424        | 434        | 405        | 391      | 399      |
| 21:00       | 477        | 452        | 391        | 440        | 435        | 428        | 406        | 439      | 433      |
| 22:00       | 371        | 417        | 340        | 421        | 418        | 388        | 338        | 393      | 385      |
| 23:00       | 185        | 235        | 187        | 214        | 232        | 232        | 227        | 211      | 216      |
| 12h, 7-19   | 4.972      | 5.054      | 4.467      | 5.195      | 5.737      | 4.690      | 3.716      | 5.085    | 4.833    |
| 16h, 6-22   | 6.310      | 6.436      | 5.806      | 6.657      | 7.241      | 6.069      | 5.031      | 6.490    | 6.221    |
| 18h, 6-24   | 6.866      | 7.088      | 6.333      | 7.292      | 7.891      | 6.689      | 5.596      | 7.094    | 6.822    |
| 24h, 0-24   | 7.224      | 7.502      | 6.722      | 7.672      | 8.219      | 7.167      | 6.210      | 7.468    | 7.245    |
| AM          | 11:00      | 11:00      | 11:00      | 10:00      | 11:00      | 10:00      | 11:00      | 11:00    | 11:00    |
| Valor Punta | 395        | 422        | 404        | 420        | 470        | 456        | 382        | 419      | 417      |
| PM          | 15:00      | 15:00      | 13:00      | 15:00      | 15:00      | 13:00      | 13:00      | 15:00    | 14:00    |
| Valor Punta | 566        | 567        | 524        | 580        | 653        | 559        | 482        | 560      | 533      |

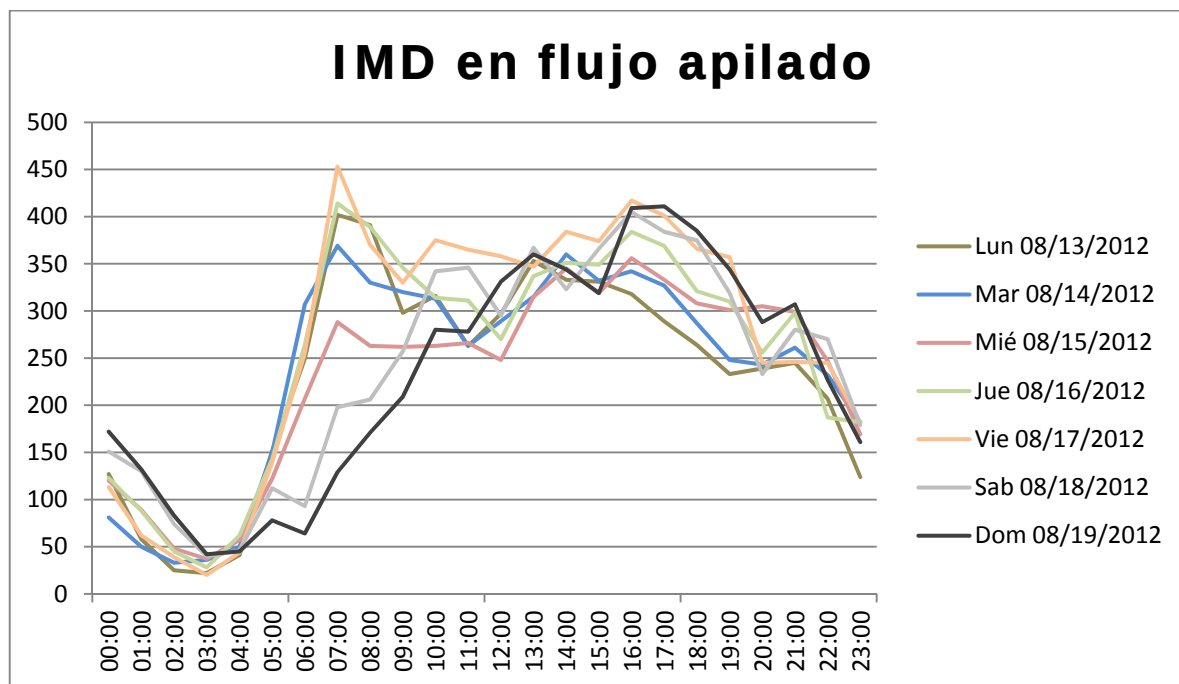
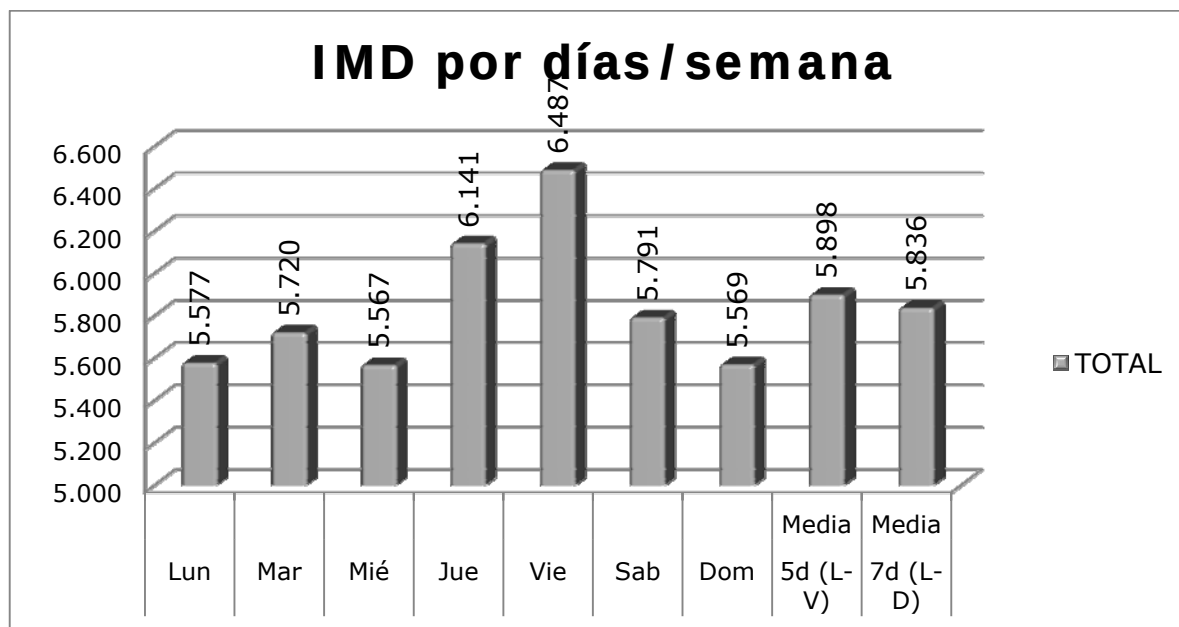
### 10.2.1. Gráficos de volumen de vehículos –Sentido A



### 10.3. Volumen de vehículos – Sentido B

|             | Lun        | Mar        | Mié        | Jue        | Vie        | Sab        | Dom        | 5d (L-V) | 7d (L-D) |
|-------------|------------|------------|------------|------------|------------|------------|------------|----------|----------|
|             | 08/13/2012 | 08/14/2012 | 08/15/2012 | 08/16/2012 | 08/17/2012 | 08/18/2012 | 08/19/2012 | Media    | Media    |
| 00:00       | 127        | 81         | 120        | 123        | 113        | 151        | 172        | 113      | 127      |
| 01:00       | 58         | 50         | 89         | 88         | 62         | 130        | 132        | 69       | 87       |
| 02:00       | 25         | 33         | 48         | 45         | 39         | 74         | 83         | 38       | 50       |
| 03:00       | 22         | 36         | 37         | 28         | 20         | 40         | 42         | 29       | 32       |
| 04:00       | 41         | 50         | 57         | 62         | 44         | 46         | 45         | 51       | 49       |
| 05:00       | 152        | 150        | 122        | 143        | 139        | 112        | 78         | 141      | 128      |
| 06:00       | 249        | 307        | 207        | 264        | 255        | 93         | 64         | 256      | 206      |
| 07:00       | 402        | 369        | 288        | 414        | 453        | 198        | 129        | 385      | 322      |
| 08:00       | 391        | 330        | 263        | 389        | 370        | 206        | 171        | 349      | 303      |
| 09:00       | 298        | 320        | 262        | 346        | 330        | 257        | 209        | 311      | 289      |
| 10:00       | 316        | 313        | 263        | 314        | 375        | 342        | 280        | 316      | 315      |
| 11:00       | 263        | 263        | 266        | 311        | 365        | 346        | 278        | 294      | 299      |
| 12:00       | 297        | 289        | 248        | 270        | 358        | 295        | 331        | 292      | 298      |
| 13:00       | 353        | 315        | 315        | 337        | 347        | 367        | 360        | 333      | 342      |
| 14:00       | 333        | 360        | 345        | 351        | 384        | 323        | 344        | 355      | 349      |
| 15:00       | 331        | 332        | 319        | 349        | 374        | 366        | 319        | 341      | 341      |
| 16:00       | 318        | 342        | 356        | 384        | 417        | 405        | 409        | 363      | 376      |
| 17:00       | 289        | 327        | 333        | 369        | 401        | 384        | 411        | 344      | 359      |
| 18:00       | 264        | 287        | 308        | 321        | 366        | 375        | 385        | 309      | 329      |
| 19:00       | 233        | 248        | 301        | 310        | 357        | 319        | 344        | 290      | 302      |
| 20:00       | 239        | 243        | 305        | 256        | 245        | 233        | 288        | 258      | 258      |
| 21:00       | 245        | 261        | 299        | 298        | 246        | 280        | 307        | 270      | 277      |
| 22:00       | 207        | 232        | 247        | 187        | 245        | 270        | 227        | 224      | 231      |
| 23:00       | 124        | 182        | 169        | 182        | 182        | 179        | 161        | 168      | 168      |
| 12h, 7-19   | 3.855      | 3.847      | 3.566      | 4.155      | 4.540      | 3.864      | 3.626      | 3.993    | 3.922    |
| 16h, 6-22   | 4.821      | 4.906      | 4.678      | 5.283      | 5.643      | 4.789      | 4.629      | 5.066    | 4.964    |
| 18h, 6-24   | 5.152      | 5.320      | 5.094      | 5.652      | 6.070      | 5.238      | 5.017      | 5.458    | 5.363    |
| 24h, 0-24   | 5.577      | 5.720      | 5.567      | 6.141      | 6.487      | 5.791      | 5.569      | 5.898    | 5.836    |
| AM          | 11:00      | 11:00      | 07:00      | 07:00      | 07:00      | 11:00      | 10:00      | 07:00    | 07:00    |
| Valor Punta | 402        | 369        | 288        | 414        | 453        | 346        | 280        | 385      | 322      |
| PM          | 13:00      | 14:00      | 16:00      | 16:00      | 16:00      | 16:00      | 17:00      | 16:00    | 16:00    |
| Valor Punta | 353        | 360        | 356        | 384        | 417        | 405        | 411        | 363      | 376      |

### 10.3.1. Gráficos de volumen de vehículos –Sentido B





## 10.4. Clases de vehículos

### 10.4.1. Esquema de clasificación FHWA

| Ejes     | Grupos | Descripción                                     | Clase | Parámetros                                                                                               | Vehículo Dominante                                                                                                                                                         | Conjunto   |
|----------|--------|-------------------------------------------------|-------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 2        | 1      | Bicicleta o Moto                                | 1     | $d(1) < 1.7\text{m}$ & Ejes=2                                                                            |                                                                                         | 1 (Ligero) |
| 2, 3 o 4 | 1 o 2  | Turismo, Furgoneta ligera                       | 2     | $d(1) \geq 1.7\text{m}$ ,<br>$d(1) \leq 3.2\text{m}$ & Ejes=2                                            | <br> |            |
| 2, 3 o 4 | 1      | Caravana, Remolque, etc. Pick-ups y furgonetas. | 3     | grupos=3, $d(1) \geq 2.1\text{m}$ ,<br>$d(1) \leq 3.2\text{m}$ ,<br>$d(2) \geq 2.1\text{m}$ & Ejes=3,4,5 |                                                                                         |            |
| 2 o 3    | 1      | Bus                                             | 5     | $d(1) > 3.2\text{m}$ & Ejes=2                                                                            |                                                                                         | 2 (Medio)  |
| 2        | 1      | Camión rígido de dos ejes                       | 3     | Ejes=2 & grupos=1                                                                                        |                                                                                       |            |
| 3        | 1      | Camión rígido de tres ejes                      | 4     | Ejes>3 & grupos=2                                                                                        |                                                                                       |            |
| 4        | 1      | Camión articulado rígido de tres ejes           | 4     | $d(1) > 3.2\text{m}$ , Ejes=3 & grupos=4                                                                 |                                                                                       | 3 (Pesado) |
| 2 o 4    | 2      | Camión articulado rígido de cuatro ejes         | 5     | $d(2) < 2.1\text{m}$ o $d(1) < 2.1\text{m}$<br>o $d(1) > 3.2\text{m}$<br>Ejes = 4 & grupos>2             |                                                                                       |            |
| 5 o 6    | 2      | Camión articulado rígido de cinco ejes          | 5     | $d(2) < 2.1\text{m}$ o $d(1) < 2.1\text{m}$<br>o $d(1) > 3.2\text{m}$<br>Ejes=5 & grupos>2               |                                                                                       |            |
| 6 o 7    | 2      | Camión articulado rígido de seis ejes (o más)   | 5     | Ejes=6 & grupos>2 o<br>Ejes>6 & grupos=3                                                                 |                                                                                       |            |
| 5        | 3      | Camion con remolque                             | 5     | grupos=4 & Ejes>6                                                                                        |                                                                                       |            |
| 6        | 3      | Camion con remolque                             | 5     | grupos>=5 & Ejes>6                                                                                       |                                                                                       |            |
| 7        | >3     | Camión con remolque                             | 5     |                                                                                                          |                                                                                       |            |

Clase para vehículos inclasificables: 13

## 10.4.2. Clases de vehículos absolutos

|       | Total | Bin 1  | Bin 2   | Bin 3   | Bin 4    | Bin 5 |
|-------|-------|--------|---------|---------|----------|-------|
|       | Vol.  | <=2,8m | 2,8-5,2 | 5,2-6,5 | 6,5-11,5 | >11,5 |
| 00:00 | 88    | 2      | 48      | 33      | 2        | 2     |
| 01:00 | 39    | 1      | 21      | 16      | 0        | 0     |
| 02:00 | 31    | 1      | 17      | 13      | 0        | 0     |
| 03:00 | 19    | 1      | 10      | 9       | 0        | 0     |
| 04:00 | 26    | 0      | 11      | 15      | 0        | 0     |
| 05:00 | 56    | 1      | 15      | 38      | 1        | 0     |
| 06:00 | 111   | 2      | 35      | 72      | 1        | 1     |
| 07:00 | 137   | 3      | 52      | 79      | 2        | 1     |
| 08:00 | 141   | 5      | 65      | 68      | 2        | 0     |
| 09:00 | 169   | 5      | 94      | 66      | 3        | 0     |
| 10:00 | 199   | 9      | 119     | 65      | 5        | 1     |
| 11:00 | 220   | 10     | 138     | 65      | 6        | 1     |
| 12:00 | 211   | 12     | 135     | 57      | 6        | 2     |
| 13:00 | 253   | 13     | 163     | 69      | 8        | 1     |
| 14:00 | 249   | 12     | 158     | 72      | 7        | 1     |
| 15:00 | 239   | 8      | 151     | 75      | 6        | 0     |
| 16:00 | 229   | 8      | 131     | 84      | 6        | 0     |
| 17:00 | 275   | 11     | 169     | 88      | 7        | 1     |
| 18:00 | 227   | 10     | 144     | 66      | 6        | 1     |
| 19:00 | 242   | 13     | 158     | 63      | 8        | 1     |
| 20:00 | 164   | 9      | 109     | 41      | 5        | 0     |
| 21:00 | 163   | 8      | 106     | 45      | 3        | 0     |
| 22:00 | 143   | 4      | 93      | 43      | 3        | 1     |
| 23:00 | 97    | 3      | 54      | 37      | 2        | 2     |

### Totales

|          |       |     |       |       |    |    |
|----------|-------|-----|-------|-------|----|----|
| 12H,7-19 | 2.550 | 106 | 1.519 | 854   | 64 | 7  |
| 16H,6-22 | 3.231 | 139 | 1.927 | 1.075 | 81 | 10 |
| 18H,6-24 | 3.471 | 146 | 2.073 | 1.155 | 85 | 12 |
| 24H,0-24 | 3.729 | 152 | 2.195 | 1.279 | 88 | 15 |

|             |       |       |       |       |       |       |
|-------------|-------|-------|-------|-------|-------|-------|
| AM          | 11:00 | 11:00 | 11:00 | 07:00 | 11:00 | 00:00 |
| Valor Punta | 220   | 10    | 138   | 79    | 6     | 2     |

|             |       |       |       |       |       |       |
|-------------|-------|-------|-------|-------|-------|-------|
| PM          | 17:00 | 13:00 | 17:00 | 17:00 | 19:00 | 23:00 |
| Valor Punta | 275   | 13    | 169   | 88    | 8     | 2     |

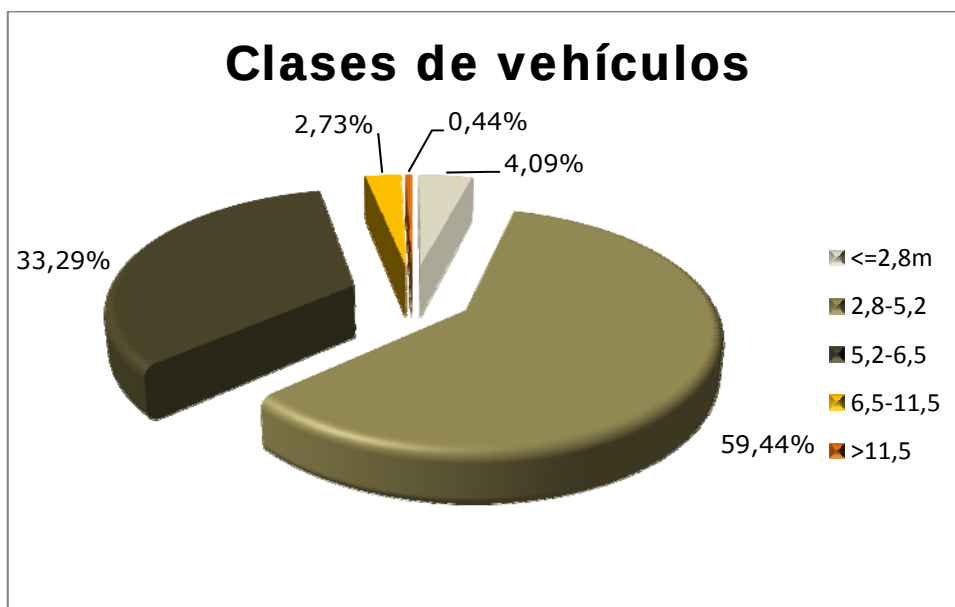
### 10.4.3. Clases de vehículos porcentuales

|       | Total | Bin 1  | Bin 2   | Bin 3   | Bin 4    | Bin 5 |
|-------|-------|--------|---------|---------|----------|-------|
|       | Vol.  | <=2,8m | 2,8-5,2 | 5,2-6,5 | 6,5-11,5 | >11,5 |
| 00:00 | 292   | 2,05%  | 55,48%  | 37,33%  | 2,74%    | 2,40% |
| 01:00 | 179   | 2,79%  | 53,63%  | 41,90%  | 1,12%    | 0,56% |
| 02:00 | 104   | 2,91%  | 54,37%  | 41,75%  | 0,00%    | 0,97% |
| 03:00 | 66    | 3,08%  | 52,31%  | 44,62%  | 0,00%    | 0,00% |
| 04:00 | 85    | 1,19%  | 42,86%  | 55,95%  | 0,00%    | 0,00% |
| 05:00 | 170   | 2,35%  | 28,24%  | 67,65%  | 1,18%    | 0,59% |
| 06:00 | 292   | 2,06%  | 31,96%  | 63,92%  | 1,37%    | 0,69% |
| 07:00 | 466   | 2,36%  | 38,20%  | 57,08%  | 1,93%    | 0,43% |
| 08:00 | 515   | 3,51%  | 46,39%  | 47,95%  | 1,75%    | 0,39% |
| 09:00 | 589   | 2,89%  | 55,78%  | 38,95%  | 2,21%    | 0,17% |
| 10:00 | 700   | 4,58%  | 60,09%  | 32,05%  | 3,00%    | 0,29% |
| 11:00 | 716   | 4,76%  | 63,22%  | 28,81%  | 2,94%    | 0,28% |
| 12:00 | 747   | 5,50%  | 64,34%  | 25,87%  | 3,49%    | 0,80% |
| 13:00 | 861   | 5,00%  | 64,65%  | 26,40%  | 3,72%    | 0,23% |
| 14:00 | 881   | 4,65%  | 63,79%  | 28,26%  | 3,06%    | 0,23% |
| 15:00 | 846   | 3,31%  | 63,05%  | 30,81%  | 2,72%    | 0,12% |
| 16:00 | 803   | 3,62%  | 57,23%  | 36,16%  | 2,87%    | 0,12% |
| 17:00 | 827   | 4,11%  | 61,43%  | 31,44%  | 2,78%    | 0,24% |
| 18:00 | 804   | 4,61%  | 63,64%  | 28,27%  | 3,11%    | 0,37% |
| 19:00 | 771   | 5,45%  | 65,37%  | 24,90%  | 3,63%    | 0,65% |
| 20:00 | 658   | 5,78%  | 66,36%  | 24,05%  | 3,50%    | 0,30% |
| 21:00 | 709   | 4,80%  | 65,59%  | 27,08%  | 2,26%    | 0,28% |
| 22:00 | 615   | 3,08%  | 64,77%  | 29,55%  | 2,11%    | 0,49% |
| 23:00 | 384   | 2,59%  | 55,70%  | 37,31%  | 2,33%    | 2,07% |

#### Totals

|          |        |         |        |        |         |       |
|----------|--------|---------|--------|--------|---------|-------|
| 12H,7-19 | 8.755  | 4,17%   | 59,74% | 32,90% | 2,88%   | 0,30% |
| 16H,6-22 | 11.186 | 4,34%   | 60,17% | 32,27% | 2,89%   | 0,33% |
| 18H,6-24 | 12.185 | 4,22%   | 60,26% | 32,29% | 2,83%   | 0,39% |
| 24H,0-24 | 13.081 | 4,09%   | 59,44% | 33,29% | 2,73%   | 0,44% |
|          |        | Ligeros |        |        | Pesados |       |
| Am       | 11:00  | 11:00   | 11:00  | 07:00  | 11:00   | 00:00 |
| Peak     | 716    | 34      | 453    | 266    | 21      | 7     |
| Am       | 14:00  | 13:00   | 14:00  | 16:00  | 13:00   | 23:00 |
| Peak     | 881    | 43      | 562    | 290    | 32      | 8     |

#### 10.4.4. Gráficos de clases de vehículos



## 10.5. Velocidades

|             | Total | 85th  | Mean  | Std.  | Bin 1 | Bin 2 | Bin 3  | Bin 4  | Bin 5  | Bin 6  | Bin 7  | Bin 8  | Bin 9  | Bin 10 | Bin 11 | Bin 12 | Bin 13 |
|-------------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|             | Vol.  | %ile  | Ave.  | Dev.  | <6Kph | 6-<11 | 11-<16 | 16-<21 | 21-<26 | 26-<31 | 31-<36 | 36-<41 | 41-<46 | 46-<51 | 51-<56 | 56-<61 | ≥61    |
| 00:00       | 292   | 46,7  | 37,3  | 9,1   | 0     | 0     | 1      | 0      | 9      | 56     | 83     | 55     | 38     | 22     | 14     | 7      | 6      |
| 01:00       | 179   | 48,3  | 39,0  | 8,9   | 0     | 0     | 0      | 1      | 4      | 24     | 48     | 39     | 26     | 20     | 8      | 5      | 5      |
| 02:00       | 104   | 49,2  | 39,2  | 9,4   | 0     | 0     | 0      | 0      | 2      | 15     | 27     | 18     | 16     | 12     | 5      | 4      | 3      |
| 03:00       | 66    | 50,2  | 40,0  | 9,7   | 0     | 0     | 0      | 0      | 1      | 10     | 16     | 13     | 10     | 8      | 4      | 3      | 2      |
| 04:00       | 85    | 52,8  | 41,8  | 10,1  | 0     | 0     | 0      | 0      | 2      | 10     | 15     | 15     | 14     | 12     | 7      | 6      | 4      |
| 05:00       | 170   | 54,8  | 43,8  | 9,7   | 0     | 0     | 0      | 0      | 2      | 13     | 23     | 31     | 35     | 26     | 19     | 13     | 9      |
| 06:00       | 292   | 51,8  | 42,2  | 9,1   | 0     | 0     | 1      | 1      | 2      | 20     | 46     | 65     | 61     | 47     | 28     | 13     | 8      |
| 07:00       | 466   | 48,2  | 39,9  | 8,2   | 0     | 0     | 0      | 3      | 8      | 43     | 92     | 126    | 99     | 56     | 23     | 9      | 6      |
| 08:00       | 515   | 48,0  | 38,9  | 8,8   | 0     | 0     | 1      | 5      | 13     | 69     | 117    | 117    | 94     | 53     | 29     | 11     | 7      |
| 09:00       | 589   | 46,3  | 37,3  | 8,6   | 0     | 0     | 0      | 6      | 25     | 116    | 140    | 126    | 84     | 55     | 21     | 10     | 6      |
| 10:00       | 700   | 43,9  | 34,9  | 8,4   | 0     | 0     | 3      | 12     | 53     | 201    | 154    | 122    | 86     | 42     | 17     | 6      | 4      |
| 11:00       | 716   | 42,6  | 33,6  | 8,3   | 0     | 0     | 3      | 19     | 81     | 220    | 152    | 109    | 78     | 34     | 12     | 5      | 4      |
| 12:00       | 747   | 42,1  | 33,0  | 8,7   | 1     | 2     | 6      | 27     | 89     | 230    | 159    | 106    | 69     | 35     | 14     | 4      | 4      |
| 13:00       | 861   | 43,3  | 34,2  | 8,5   | 0     | 0     | 2      | 18     | 81     | 253    | 210    | 125    | 90     | 45     | 22     | 9      | 6      |
| 14:00       | 881   | 44,4  | 35,2  | 8,7   | 0     | 0     | 2      | 14     | 66     | 235    | 221    | 144    | 95     | 58     | 25     | 11     | 11     |
| 15:00       | 846   | 46,6  | 37,1  | 8,8   | 0     | 0     | 0      | 4      | 31     | 184    | 236    | 153    | 103    | 70     | 37     | 17     | 10     |
| 16:00       | 803   | 47,3  | 37,7  | 8,9   | 0     | 0     | 0      | 6      | 29     | 162    | 202    | 147    | 117    | 74     | 36     | 16     | 13     |
| 17:00       | 827   | 45,2  | 36,1  | 8,7   | 0     | 0     | 0      | 9      | 50     | 198    | 209    | 149    | 104    | 58     | 26     | 15     | 8      |
| 18:00       | 804   | 43,5  | 34,5  | 8,6   | 0     | 1     | 2      | 17     | 68     | 227    | 189    | 135    | 87     | 46     | 18     | 7      | 6      |
| 19:00       | 771   | 41,7  | 33,3  | 8,2   | 0     | 1     | 3      | 19     | 87     | 239    | 178    | 118    | 72     | 33     | 11     | 5      | 4      |
| 20:00       | 658   | 40,9  | 32,5  | 8,3   | 0     | 0     | 2      | 29     | 91     | 213    | 136    | 91     | 54     | 25     | 10     | 4      | 4      |
| 21:00       | 709   | 42,5  | 33,5  | 8,4   | 0     | 0     | 1      | 13     | 81     | 242    | 143    | 102    | 70     | 32     | 14     | 5      | 5      |
| 22:00       | 615   | 45,1  | 35,8  | 8,8   | 0     | 0     | 0      | 3      | 35     | 171    | 158    | 95     | 73     | 44     | 20     | 8      | 8      |
| 23:00       | 384   | 46,6  | 37,3  | 9,2   | 0     | 2     | 0      | 2      | 11     | 78     | 99     | 71     | 57     | 32     | 16     | 8      | 7      |
| Totales     |       |       |       |       |       |       |        |        |        |        |        |        |        |        |        |        |        |
| 12H,7-19    | 8755  | 48,2  | 39,9  | 8,9   | 1     | 3     | 19     | 140    | 594    | 2138   | 2081   | 1560   | 1107   | 627    | 280    | 120    | 85     |
| 16H,6-22    | 11186 | 48,0  | 38,9  | 8,9   | 1     | 4     | 26     | 202    | 856    | 2852   | 2584   | 1936   | 1365   | 764    | 343    | 147    | 106    |
| 18H,6-24    | 12185 | 47,3  | 37,7  | 8,9   | 1     | 6     | 26     | 207    | 902    | 3101   | 2841   | 2102   | 1495   | 840    | 379    | 163    | 121    |
| 24H,0-24    | 13081 | 47,3  | 37,7  | 8,9   | 1     | 6     | 27     | 208    | 922    | 3229   | 3054   | 2274   | 1634   | 939    | 436    | 201    | 150    |
| AM          | 1100  | 05:00 | 05:00 | 04:00 | 11:00 | 11:00 | 10:00  | 11:00  | 11:00  | 11:00  | 11:00  | 09:00  | 07:00  | 07:00  | 08:00  | 06:00  | 05:00  |
| Valor Punta | 716   | 54,8  | 43,8  | 10,1  | 0     | 0     | 3      | 19     | 81     | 220    | 154    | 126    | 99     | 56     | 29     | 13     | 9      |
| PM          | 23:00 | 16:00 | 16:00 | 23:00 | 12:00 | 12:00 | 12:00  | 20:00  | 20:00  | 13:00  | 15:00  | 15:00  | 16:00  | 16:00  | 15:00  | 15:00  | 16:00  |
| Valor Punta | 881   | 47,3  | 37,7  | 9,2   | 1     | 2     | 6      | 29     | 91     | 253    | 236    | 153    | 117    | 74     | 37     | 17     | 13     |

## 11. Datos del aforo 05

**Duración de los Aforos:**

00:00 lunes, 13 de septiembre 2012 => 23:00 domingo, 19 de septiembre 2012

**Identificador:**

Vectio TN-05 (Tubo Neumático)

**Tipo de Datos:**

Sensores de Ejes - En Pares (Clase, Velocidad, Recuento)

**Clases Incluidas:**

1, 2, 3, 4, 5

**Esquema:**

Clasificación Vehicular (FHWA)

**Intervalo de Velocidades:**

10 - 200 km/h.

**Sentido de Circulación:**

1: A-B = Ascendente (Salida de Castro Urdiales)

2: B-A = Descendente (Entrada a Castro Urdiales)

**Separación:**

Todos - (Intervalo Vehicular)

**Unidades:**

Métrico (metro, kilómetro, m/s, km/h, kg, Tonelada Métrica (kg))

**Localización del aforador:**

Calle de Leonardo Rucabado

**Localización geográfica:**

N 43°22'37.00"

O 3°12'03.18"

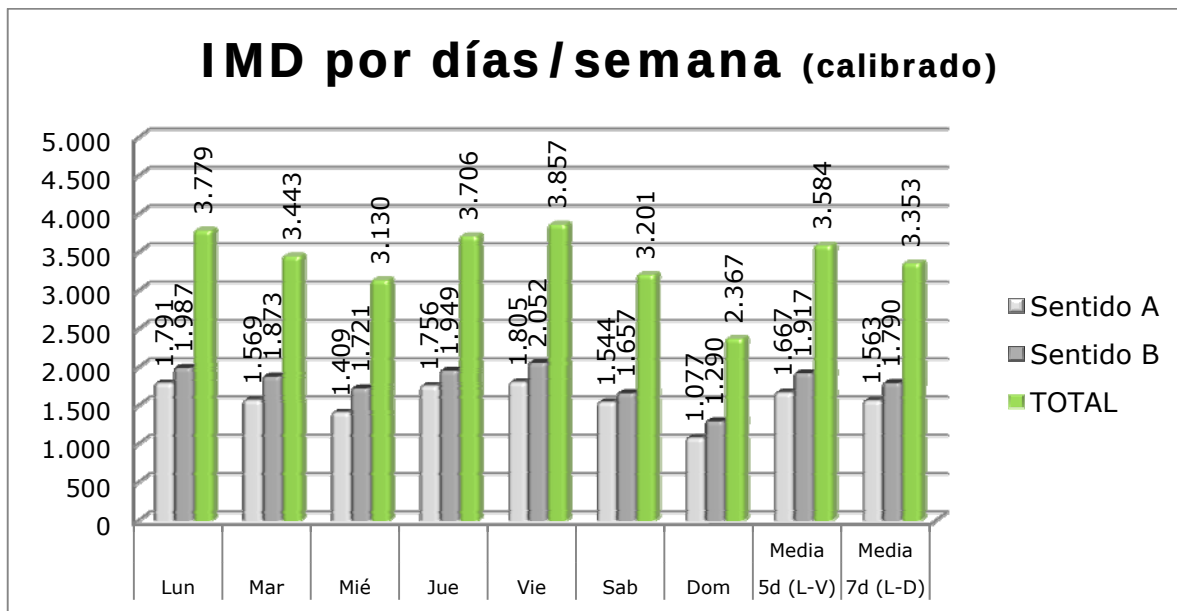
**Imagen**



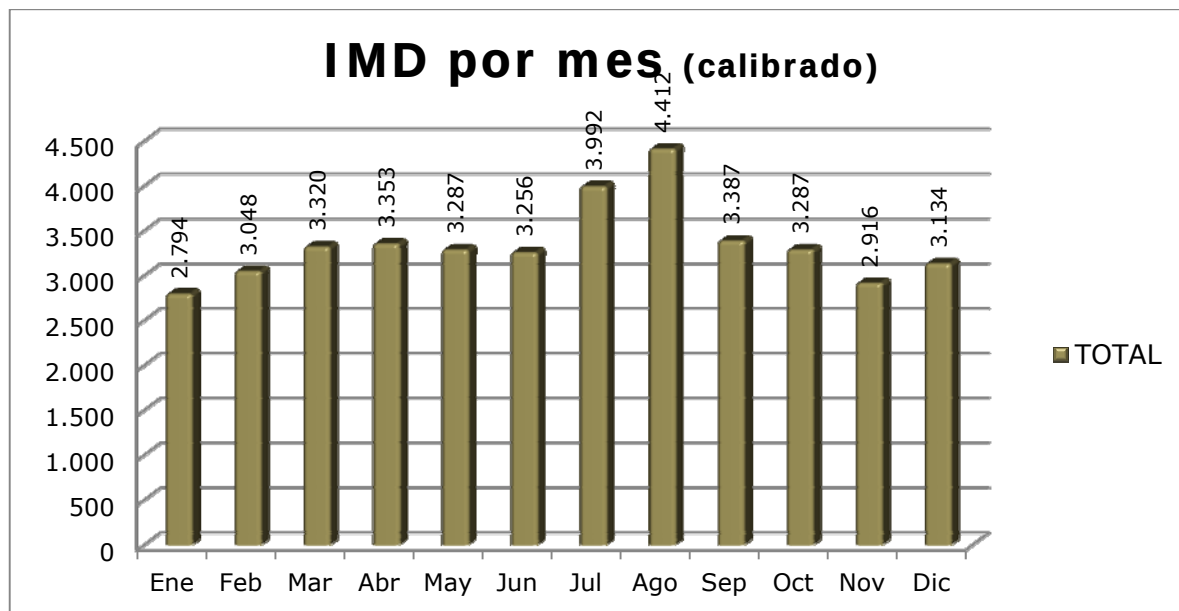
## 11.1. Volumen de vehículos – Total

|             | Lun        | Mar        | Mié        | Jue        | Vie        | Sab        | Dom        | 5d (L-V) | 7d (L-D) |
|-------------|------------|------------|------------|------------|------------|------------|------------|----------|----------|
|             | 08/13/2012 | 08/14/2012 | 08/15/2012 | 08/16/2012 | 08/17/2012 | 08/18/2012 | 08/19/2012 | Media    | Media    |
| 00:00       | 56         | 50         | 64         | 79         | 52         | 77         | 85         | 60       | 66       |
| 01:00       | 28         | 26         | 46         | 45         | 38         | 57         | 58         | 37       | 43       |
| 02:00       | 21         | 16         | 28         | 18         | 27         | 33         | 58         | 22       | 29       |
| 03:00       | 11         | 8          | 17         | 13         | 9          | 20         | 33         | 12       | 16       |
| 04:00       | 12         | 7          | 16         | 16         | 11         | 11         | 29         | 12       | 15       |
| 05:00       | 35         | 39         | 37         | 35         | 27         | 32         | 37         | 35       | 35       |
| 06:00       | 52         | 62         | 51         | 51         | 65         | 26         | 23         | 56       | 47       |
| 07:00       | 166        | 144        | 113        | 149        | 153        | 69         | 36         | 145      | 119      |
| 08:00       | 168        | 174        | 118        | 174        | 191        | 111        | 60         | 165      | 142      |
| 09:00       | 248        | 222        | 184        | 271        | 276        | 184        | 99         | 240      | 212      |
| 10:00       | 321        | 253        | 225        | 297        | 311        | 304        | 158        | 281      | 267      |
| 11:00       | 350        | 127        | 289        | 271        | 368        | 336        | 219        | 281      | 280      |
| 12:00       | 356        | 365        | 256        | 366        | 380        | 370        | 218        | 345      | 330      |
| 13:00       | 355        | 243        | 339        | 343        | 340        | 322        | 227        | 324      | 310      |
| 14:00       | 321        | 316        | 280        | 321        | 329        | 251        | 235        | 313      | 293      |
| 15:00       | 273        | 277        | 214        | 301        | 302        | 225        | 137        | 273      | 247      |
| 16:00       | 281        | 272        | 205        | 265        | 271        | 191        | 152        | 259      | 234      |
| 17:00       | 326        | 312        | 229        | 307        | 289        | 191        | 149        | 293      | 258      |
| 18:00       | 352        | 328        | 293        | 327        | 304        | 236        | 195        | 321      | 291      |
| 19:00       | 370        | 345        | 302        | 345        | 346        | 283        | 219        | 342      | 316      |
| 20:00       | 344        | 345        | 312        | 321        | 366        | 319        | 200        | 338      | 315      |
| 21:00       | 259        | 289        | 254        | 293        | 309        | 285        | 215        | 281      | 272      |
| 22:00       | 161        | 200        | 162        | 164        | 190        | 171        | 167        | 175      | 174      |
| 23:00       | 106        | 110        | 84         | 104        | 121        | 108        | 105        | 105      | 105      |
| 12h, 7-19   | 3.517      | 3.033      | 2.745      | 3.392      | 3.514      | 2.790      | 1.885      | 3.240    | 2.982    |
| 16h, 6-22   | 4.542      | 4.074      | 3.664      | 4.402      | 4.600      | 3.703      | 2.542      | 4.256    | 3.932    |
| 18h, 6-24   | 4.809      | 4.384      | 3.910      | 4.670      | 4.911      | 3.982      | 2.814      | 4.537    | 4.211    |
| 24h, 0-24   | 4.972      | 4.530      | 4.118      | 4.876      | 5.075      | 4.212      | 3.114      | 4.714    | 4.414    |
| AM          | 11:00      | 10:00      | 11:00      | 10:00      | 11:00      | 11:00      | 11:00      | 10:00    | 11:00    |
| Valor Punta | 350        | 253        | 289        | 297        | 368        | 336        | 219        | 281      | 280      |
| PM          | 19:00      | 12:00      | 13:00      | 12:00      | 12:00      | 12:00      | 14:00      | 12:00    | 12:00    |
| Valor Punta | 370        | 365        | 339        | 366        | 380        | 370        | 235        | 345      | 330      |

### 11.1.1. Gráficos de volumen de vehículos –Total



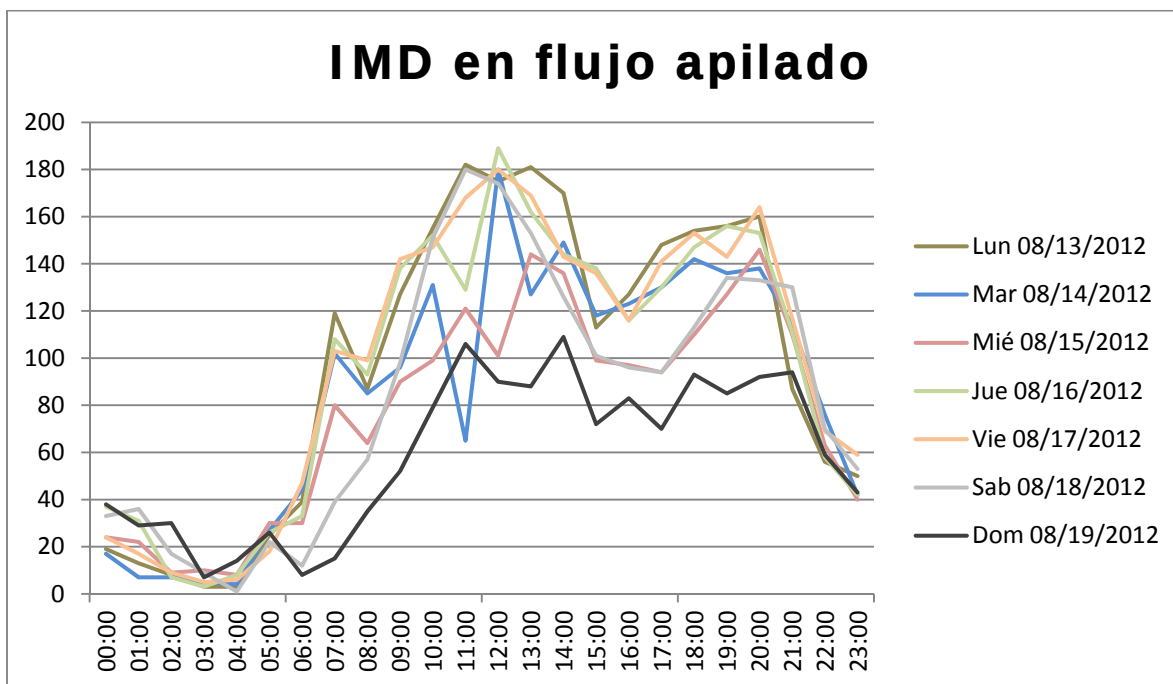
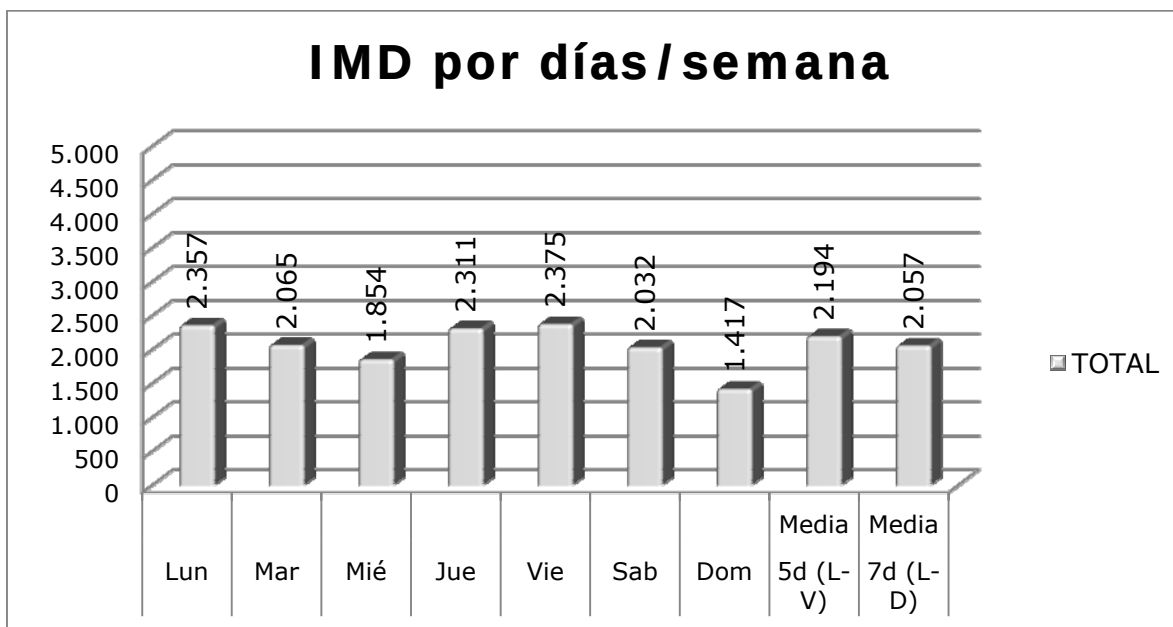




## 11.2. Volumen de vehículos – Sentido A

|             | Lun        | Mar        | Mié        | Jue        | Vie        | Sab        | Dom        | 5d (L-V) | 7d (L-D) |
|-------------|------------|------------|------------|------------|------------|------------|------------|----------|----------|
|             | 08/13/2012 | 08/14/2012 | 08/15/2012 | 08/16/2012 | 08/17/2012 | 08/18/2012 | 08/19/2012 | Media    | Media    |
| 00:00       | 19         | 17         | 24         | 37         | 24         | 33         | 38         | 24       | 27       |
| 01:00       | 13         | 7          | 22         | 31         | 17         | 36         | 29         | 18       | 22       |
| 02:00       | 8          | 7          | 9          | 7          | 9          | 17         | 30         | 8        | 12       |
| 03:00       | 3          | 5          | 10         | 3          | 5          | 9          | 7          | 5        | 6        |
| 04:00       | 3          | 4          | 8          | 8          | 6          | 1          | 14         | 6        | 6        |
| 05:00       | 25         | 27         | 30         | 26         | 18         | 22         | 26         | 25       | 25       |
| 06:00       | 39         | 44         | 30         | 33         | 47         | 12         | 8          | 39       | 30       |
| 07:00       | 119        | 102        | 80         | 108        | 103        | 39         | 15         | 102      | 81       |
| 08:00       | 87         | 85         | 64         | 93         | 99         | 57         | 35         | 86       | 74       |
| 09:00       | 127        | 96         | 90         | 138        | 142        | 98         | 52         | 119      | 106      |
| 10:00       | 155        | 131        | 99         | 152        | 147        | 151        | 79         | 137      | 131      |
| 11:00       | 182        | 65         | 121        | 129        | 168        | 180        | 106        | 133      | 136      |
| 12:00       | 175        | 180        | 101        | 189        | 180        | 174        | 90         | 165      | 156      |
| 13:00       | 181        | 127        | 144        | 162        | 169        | 153        | 88         | 157      | 146      |
| 14:00       | 170        | 149        | 136        | 144        | 143        | 126        | 109        | 148      | 140      |
| 15:00       | 113        | 118        | 99         | 138        | 136        | 101        | 72         | 121      | 111      |
| 16:00       | 127        | 123        | 97         | 116        | 116        | 96         | 83         | 116      | 108      |
| 17:00       | 148        | 130        | 94         | 130        | 141        | 94         | 70         | 129      | 115      |
| 18:00       | 154        | 142        | 110        | 147        | 153        | 113        | 93         | 141      | 130      |
| 19:00       | 156        | 136        | 127        | 156        | 143        | 134        | 85         | 144      | 134      |
| 20:00       | 160        | 138        | 146        | 153        | 164        | 133        | 92         | 152      | 141      |
| 21:00       | 87         | 114        | 110        | 111        | 117        | 130        | 94         | 108      | 109      |
| 22:00       | 56         | 76         | 63         | 58         | 69         | 70         | 59         | 64       | 64       |
| 23:00       | 50         | 42         | 40         | 42         | 59         | 53         | 43         | 47       | 47       |
| 12h, 7-19   | 1.738      | 1.448      | 1.235      | 1.646      | 1.697      | 1.382      | 892        | 1.554    | 1.434    |
| 16h, 6-22   | 2.180      | 1.880      | 1.648      | 2.099      | 2.168      | 1.791      | 1.171      | 1.997    | 1.848    |
| 18h, 6-24   | 2.286      | 1.998      | 1.751      | 2.199      | 2.296      | 1.914      | 1.273      | 2.108    | 1.959    |
| 24h, 0-24   | 2.357      | 2.065      | 1.854      | 2.311      | 2.375      | 2.032      | 1.417      | 2.194    | 2.057    |
| AM          | 11:00      | 10:00      | 11:00      | 10:00      | 11:00      | 11:00      | 11:00      | 10:00    | 11:00    |
| Valor Punta | 182        | 131        | 121        | 152        | 168        | 180        | 106        | 137      | 136      |
| PM          | 13:00      | 12:00      | 20:00      | 12:00      | 12:00      | 12:00      | 14:00      | 12:00    | 12:00    |
| Valor Punta | 181        | 180        | 146        | 189        | 180        | 174        | 109        | 165      | 156      |

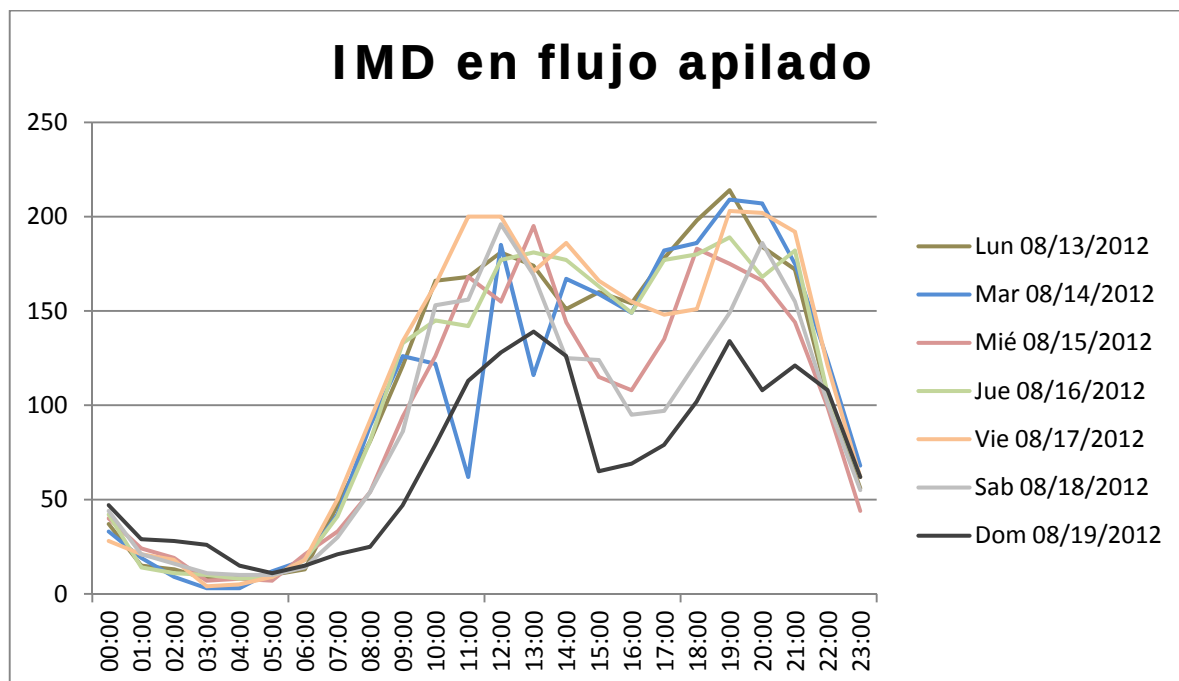
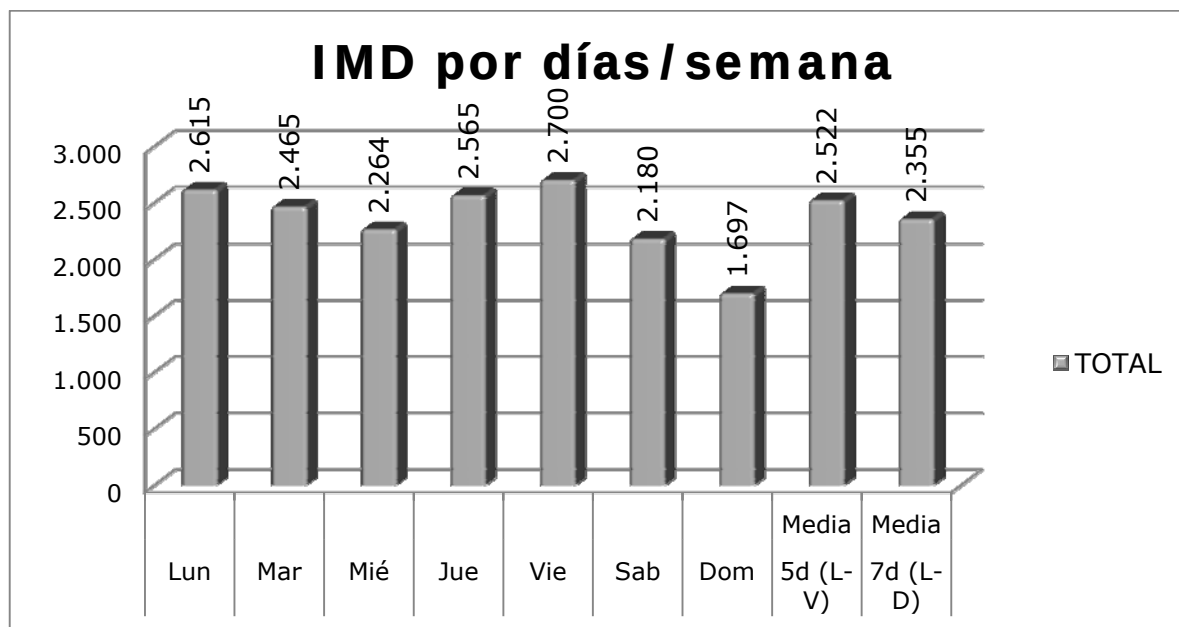
### 11.2.1. Gráficos de volumen de vehículos –Sentido A



### 11.3. Volumen de vehículos – Sentido B

|             | Lun        | Mar        | Mié        | Jue        | Vie        | Sab        | Dom        | 5d (L-V) | 7d (L-D) |
|-------------|------------|------------|------------|------------|------------|------------|------------|----------|----------|
|             | 08/13/2012 | 08/14/2012 | 08/15/2012 | 08/16/2012 | 08/17/2012 | 08/18/2012 | 08/19/2012 | Media    | Media    |
| 00:00       | 37         | 33         | 40         | 42         | 28         | 44         | 47         | 36       | 39       |
| 01:00       | 15         | 19         | 24         | 14         | 21         | 21         | 29         | 19       | 20       |
| 02:00       | 13         | 9          | 19         | 11         | 18         | 16         | 28         | 14       | 16       |
| 03:00       | 8          | 3          | 7          | 10         | 4          | 11         | 26         | 6        | 10       |
| 04:00       | 9          | 3          | 8          | 8          | 5          | 10         | 15         | 7        | 8        |
| 05:00       | 10         | 12         | 7          | 9          | 9          | 10         | 11         | 9        | 10       |
| 06:00       | 13         | 18         | 21         | 18         | 18         | 14         | 15         | 18       | 17       |
| 07:00       | 47         | 42         | 33         | 41         | 50         | 30         | 21         | 43       | 38       |
| 08:00       | 81         | 89         | 54         | 81         | 92         | 54         | 25         | 79       | 68       |
| 09:00       | 121        | 126        | 94         | 133        | 134        | 86         | 47         | 122      | 106      |
| 10:00       | 166        | 122        | 126        | 145        | 164        | 153        | 79         | 145      | 136      |
| 11:00       | 168        | 62         | 168        | 142        | 200        | 156        | 113        | 148      | 144      |
| 12:00       | 181        | 185        | 155        | 177        | 200        | 196        | 128        | 180      | 175      |
| 13:00       | 174        | 116        | 195        | 181        | 171        | 169        | 139        | 167      | 164      |
| 14:00       | 151        | 167        | 144        | 177        | 186        | 125        | 126        | 165      | 154      |
| 15:00       | 160        | 159        | 115        | 163        | 166        | 124        | 65         | 153      | 136      |
| 16:00       | 154        | 149        | 108        | 149        | 155        | 95         | 69         | 143      | 126      |
| 17:00       | 178        | 182        | 135        | 177        | 148        | 97         | 79         | 164      | 142      |
| 18:00       | 198        | 186        | 183        | 180        | 151        | 123        | 102        | 180      | 160      |
| 19:00       | 214        | 209        | 175        | 189        | 203        | 149        | 134        | 198      | 182      |
| 20:00       | 184        | 207        | 166        | 168        | 202        | 186        | 108        | 185      | 174      |
| 21:00       | 172        | 175        | 144        | 182        | 192        | 155        | 121        | 173      | 163      |
| 22:00       | 105        | 124        | 99         | 106        | 121        | 101        | 108        | 111      | 109      |
| 23:00       | 56         | 68         | 44         | 62         | 62         | 55         | 62         | 58       | 58       |
| 12h, 7-19   | 1.779      | 1.585      | 1.510      | 1.746      | 1.817      | 1.408      | 993        | 1.687    | 1.548    |
| 16h, 6-22   | 2.362      | 2.194      | 2.016      | 2.303      | 2.432      | 1.912      | 1.371      | 2.261    | 2.084    |
| 18h, 6-24   | 2.523      | 2.386      | 2.159      | 2.471      | 2.615      | 2.068      | 1.541      | 2.431    | 2.252    |
| 24h, 0-24   | 2.615      | 2.465      | 2.264      | 2.565      | 2.700      | 2.180      | 1.697      | 2.522    | 2.355    |
| AM          | 11:00      | 09:00      | 11:00      | 10:00      | 11:00      | 11:00      | 11:00      | 11:00    | 11:00    |
| Valor Punta | 168        | 126        | 168        | 145        | 200        | 156        | 113        | 148      | 144      |
| PM          | 19:00      | 19:00      | 13:00      | 19:00      | 19:00      | 13:00      | 13:00      | 19:00    | 19:00    |
| Valor Punta | 214        | 209        | 195        | 189        | 203        | 196        | 139        | 198      | 182      |

### 11.3.1. Gráficos de volumen de vehículos –Sentido B



## 11.4. Clases de vehículos

### 11.4.1. Esquema de clasificación FHWA

| Ejes     | Grupos | Descripción                                     | Clase | Parámetros                                                                                               | Vehículo Dominante                                                                                                                                                         | Conjunto   |
|----------|--------|-------------------------------------------------|-------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 2        | 1      | Bicicleta o Moto                                | 1     | $d(1) < 1.7\text{m}$ & Ejes=2                                                                            |                                                                                         | 1 (Ligero) |
| 2, 3 o 4 | 1 o 2  | Turismo, Furgoneta ligera                       | 2     | $d(1) \geq 1.7\text{m}$ ,<br>$d(1) \leq 3.2\text{m}$ & Ejes=2                                            | <br> |            |
| 2, 3 o 4 | 1      | Caravana, Remolque, etc. Pick-ups y furgonetas. | 3     | grupos=3, $d(1) \geq 2.1\text{m}$ ,<br>$d(1) \leq 3.2\text{m}$ ,<br>$d(2) \geq 2.1\text{m}$ & Ejes=3,4,5 |                                                                                         |            |
| 2 o 3    | 1      | Bus                                             | 5     | $d(1) > 3.2\text{m}$ & Ejes=2                                                                            |                                                                                         | 2 (Medio)  |
| 2        | 1      | Camión rígido de dos ejes                       | 3     | Ejes=2 & grupos=1                                                                                        |                                                                                       |            |
| 3        | 1      | Camión rígido de tres ejes                      | 4     | Ejes>3 & grupos=2                                                                                        |                                                                                       |            |
| 4        | 1      | Camión articulado rígido de tres ejes           | 4     | $d(1) > 3.2\text{m}$ , Ejes=3 & grupos=4                                                                 |                                                                                       | 3 (Pesado) |
| 2 o 4    | 2      | Camión articulado rígido de cuatro ejes         | 5     | $d(2) < 2.1\text{m}$ o $d(1) < 2.1\text{m}$<br>o $d(1) > 3.2\text{m}$<br>Ejes = 4 & grupos>2             |                                                                                       |            |
| 5 o 6    | 2      | Camión articulado rígido de cinco ejes          | 5     | $d(2) < 2.1\text{m}$ o $d(1) < 2.1\text{m}$<br>o $d(1) > 3.2\text{m}$<br>Ejes=5 & grupos>2               |                                                                                       |            |
| 6 o 7    | 2      | Camión articulado rígido de seis ejes (o más)   | 5     | Ejes=6 & grupos>2 o<br>Ejes>6 & grupos=3                                                                 |                                                                                       |            |
| 5        | 3      | Camion con remolque                             | 5     | grupos=4 & Ejes>6                                                                                        |                                                                                       |            |
| 6        | 3      | Camion con remolque                             | 5     | grupos>=5 & Ejes>6                                                                                       |                                                                                       |            |
| 7        | >3     | Camión con remolque                             | 5     |                                                                                                          |                                                                                       |            |

Clase para vehículos inclasificables: 13

## 11.4.2. Clases de vehículos absolutos

|       | Total | Bin 1  | Bin 2   | Bin 3   | Bin 4    | Bin 5 |
|-------|-------|--------|---------|---------|----------|-------|
|       | Vol.  | <=2,8m | 2,8-5,2 | 5,2-6,5 | 6,5-11,5 | >11,5 |
| 00:00 | 66    | 1      | 49      | 16      | 0        | 1     |
| 01:00 | 43    | 1      | 29      | 12      | 0        | 1     |
| 02:00 | 29    | 1      | 21      | 7       | 0        | 0     |
| 03:00 | 16    | 0      | 13      | 3       | 0        | 0     |
| 04:00 | 15    | 1      | 10      | 3       | 0        | 0     |
| 05:00 | 35    | 3      | 19      | 13      | 0        | 0     |
| 06:00 | 47    | 2      | 27      | 18      | 0        | 0     |
| 07:00 | 119   | 3      | 61      | 52      | 0        | 1     |
| 08:00 | 142   | 3      | 89      | 47      | 1        | 3     |
| 09:00 | 212   | 6      | 139     | 58      | 1        | 9     |
| 10:00 | 267   | 8      | 174     | 71      | 3        | 11    |
| 11:00 | 280   | 14     | 182     | 66      | 3        | 16    |
| 12:00 | 330   | 12     | 206     | 84      | 7        | 22    |
| 13:00 | 310   | 11     | 192     | 78      | 5        | 23    |
| 14:00 | 293   | 11     | 188     | 73      | 4        | 17    |
| 15:00 | 247   | 7      | 165     | 59      | 3        | 13    |
| 16:00 | 234   | 8      | 157     | 56      | 2        | 11    |
| 17:00 | 258   | 11     | 169     | 58      | 5        | 14    |
| 18:00 | 291   | 11     | 188     | 66      | 5        | 21    |
| 19:00 | 316   | 10     | 213     | 67      | 5        | 21    |
| 20:00 | 315   | 9      | 207     | 74      | 4        | 22    |
| 21:00 | 272   | 8      | 194     | 57      | 3        | 10    |
| 22:00 | 174   | 7      | 125     | 33      | 2        | 6     |
| 23:00 | 105   | 4      | 76      | 23      | 0        | 2     |

### Totales

|          |       |     |       |       |    |     |
|----------|-------|-----|-------|-------|----|-----|
| 12H,7-19 | 2.982 | 105 | 1.909 | 768   | 40 | 160 |
| 16H,6-22 | 3.932 | 134 | 2.550 | 983   | 52 | 214 |
| 18H,6-24 | 4.211 | 145 | 2.752 | 1.040 | 54 | 221 |
| 24H,0-24 | 4.414 | 152 | 2.892 | 1.094 | 54 | 222 |

|             |       |       |       |       |       |       |
|-------------|-------|-------|-------|-------|-------|-------|
| AM          | 11:00 | 11:00 | 11:00 | 10:00 | 10:00 | 11:00 |
| Valor Punta | 280   | 14    | 182   | 71    | 3     | 16    |

|             |       |       |       |       |       |       |
|-------------|-------|-------|-------|-------|-------|-------|
| PM          | 12:00 | 12:00 | 19:00 | 12:00 | 12:00 | 13:00 |
| Valor Punta | 330   | 12    | 213   | 84    | 7     | 23    |

### 11.4.3. Clases de vehículos porcentuales

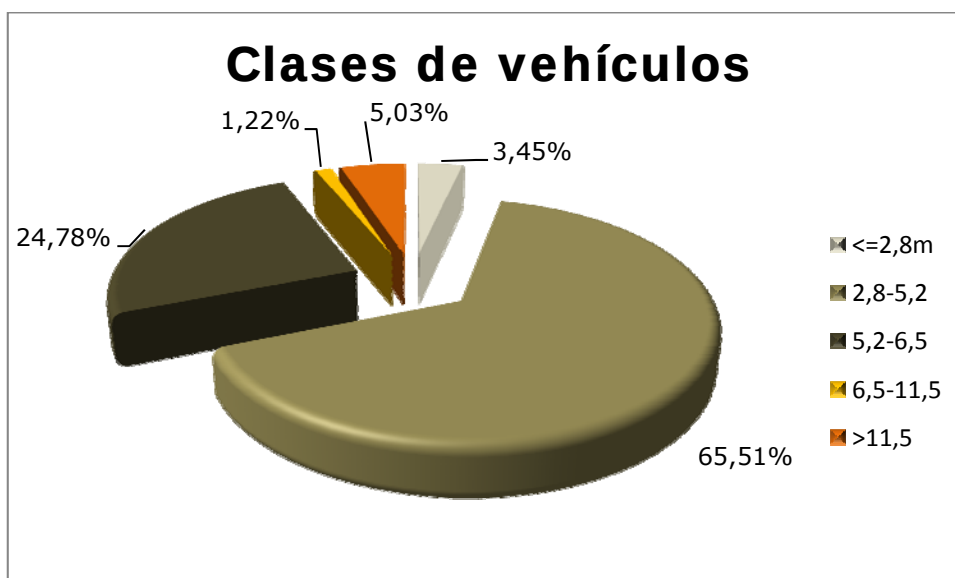
|       | Total | Bin 1  | Bin 2   | Bin 3   | Bin 4    | Bin 5 |
|-------|-------|--------|---------|---------|----------|-------|
|       | Vol.  | <=2,8m | 2,8-5,2 | 5,2-6,5 | 6,5-11,5 | >11,5 |
| 00:00 | 66    | 1,61%  | 73,39%  | 24,19%  | 0,00%    | 0,81% |
| 01:00 | 43    | 2,78%  | 68,06%  | 27,78%  | 0,00%    | 1,39% |
| 02:00 | 29    | 4,76%  | 71,43%  | 23,81%  | 0,00%    | 0,00% |
| 03:00 | 16    | 0,00%  | 83,33%  | 16,67%  | 0,00%    | 0,00% |
| 04:00 | 15    | 7,69%  | 69,23%  | 23,08%  | 0,00%    | 0,00% |
| 05:00 | 35    | 8,11%  | 54,05%  | 37,84%  | 0,00%    | 0,00% |
| 06:00 | 47    | 3,85%  | 57,69%  | 38,46%  | 0,00%    | 0,00% |
| 07:00 | 119   | 2,80%  | 51,75%  | 44,06%  | 0,35%    | 1,05% |
| 08:00 | 142   | 1,89%  | 62,26%  | 32,70%  | 0,94%    | 2,20% |
| 09:00 | 212   | 2,60%  | 65,37%  | 27,27%  | 0,65%    | 4,11% |
| 10:00 | 267   | 2,95%  | 65,13%  | 26,57%  | 1,11%    | 4,24% |
| 11:00 | 280   | 5,02%  | 64,86%  | 23,55%  | 0,97%    | 5,60% |
| 12:00 | 330   | 3,57%  | 62,35%  | 25,30%  | 2,08%    | 6,70% |
| 13:00 | 310   | 3,44%  | 62,03%  | 25,31%  | 1,72%    | 7,50% |
| 14:00 | 293   | 3,88%  | 64,08%  | 24,92%  | 1,46%    | 5,66% |
| 15:00 | 247   | 3,01%  | 66,73%  | 24,06%  | 1,13%    | 5,08% |
| 16:00 | 234   | 3,52%  | 67,19%  | 23,83%  | 0,78%    | 4,69% |
| 17:00 | 258   | 4,39%  | 65,71%  | 22,64%  | 1,86%    | 5,41% |
| 18:00 | 291   | 3,69%  | 64,62%  | 22,77%  | 1,69%    | 7,23% |
| 19:00 | 316   | 3,24%  | 67,35%  | 21,18%  | 1,62%    | 6,62% |
| 20:00 | 315   | 2,73%  | 65,61%  | 23,33%  | 1,36%    | 6,97% |
| 21:00 | 272   | 2,92%  | 71,35%  | 20,80%  | 1,09%    | 3,83% |
| 22:00 | 174   | 4,09%  | 72,22%  | 19,30%  | 1,17%    | 3,22% |
| 23:00 | 105   | 4,00%  | 72,50%  | 22,00%  | 0,00%    | 1,50% |

#### Totals

|          |       |         |        |        |         |       |
|----------|-------|---------|--------|--------|---------|-------|
| 12H,7-19 | 2.982 | 3,52%   | 64,01% | 25,76% | 1,33%   | 5,38% |
| 16H,6-22 | 3.932 | 3,40%   | 64,84% | 25,00% | 1,32%   | 5,44% |
| 18H,6-24 | 4.211 | 3,44%   | 65,34% | 24,69% | 1,28%   | 5,25% |
| 24H,0-24 | 4.414 | 3,45%   | 65,51% | 24,78% | 1,22%   | 5,03% |
|          |       | Ligeros |        |        | Pesados |       |
| Am       | 11:00 | 11:00   | 11:00  | 10:00  | 10:00   | 11:00 |
| Peak     | 280   | 14      | 182    | 71     | 3       | 16    |
| Am       | 12:00 | 12:00   | 19:00  | 12:00  | 12:00   | 13:00 |
| Peak     | 330   | 12      | 213    | 84     | 7       | 23    |



#### 11.4.4. Gráficos de clases de vehículos



## 11.5. Velocidades

|             | Total | 85th  | Mean  | Std.  | Bin 1 | Bin 2 | Bin 3  | Bin 4  | Bin 5  | Bin 6  | Bin 7  | Bin 8  | Bin 9  | Bin 10 | Bin 11 | Bin 12 | Bin 13 |
|-------------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|             | Vol.  | %ile  | Ave.  | Dev.  | <6Kph | 6-<11 | 11-<16 | 16-<21 | 21-<26 | 26-<31 | 31-<36 | 36-<41 | 41-<46 | 46-<51 | 51-<56 | 56-<61 | >=61   |
| 00:00       | 66    | 36,9  | 28,0  | 8,7   | 0     | 0     | 4      | 13     | 12     | 14     | 12     | 5      | 5      | 0      | 0      | 0      | 0      |
| 01:00       | 43    | 38,4  | 28,7  | 9,1   | 0     | 1     | 0      | 9      | 8      | 9      | 8      | 6      | 2      | 0      | 0      | 0      | 0      |
| 02:00       | 29    | 38,0  | 28,7  | 8,4   | 0     | 0     | 0      | 4      | 7      | 7      | 4      | 5      | 2      | 0      | 0      | 0      | 0      |
| 03:00       | 16    | 37,6  | 28,6  | 9,7   | 0     | 0     | 0      | 3      | 2      | 3      | 3      | 2      | 1      | 0      | 0      | 0      | 0      |
| 04:00       | 15    | 40,1  | 30,5  | 10,1  | 0     | 0     | 0      | 3      | 4      | 3      | 3      | 1      | 1      | 0      | 0      | 0      | 0      |
| 05:00       | 35    | 42,3  | 31,9  | 9,9   | 0     | 0     | 0      | 2      | 6      | 8      | 7      | 6      | 6      | 1      | 0      | 0      | 0      |
| 06:00       | 47    | 40,1  | 30,6  | 9,4   | 0     | 0     | 2      | 5      | 8      | 11     | 9      | 6      | 3      | 3      | 0      | 0      | 0      |
| 07:00       | 119   | 40,2  | 30,3  | 9,6   | 0     | 1     | 4      | 11     | 22     | 27     | 23     | 14     | 8      | 6      | 2      | 0      | 0      |
| 08:00       | 142   | 37,2  | 28,0  | 9,3   | 1     | 2     | 5      | 20     | 33     | 34     | 23     | 13     | 7      | 5      | 0      | 0      | 0      |
| 09:00       | 212   | 34,7  | 26,0  | 9,0   | 4     | 6     | 15     | 36     | 48     | 53     | 26     | 14     | 8      | 4      | 0      | 0      | 0      |
| 10:00       | 267   | 33,9  | 25,1  | 8,8   | 5     | 9     | 19     | 48     | 68     | 57     | 34     | 16     | 7      | 3      | 0      | 0      | 0      |
| 11:00       | 280   | 33,9  | 24,9  | 9,0   | 8     | 11    | 21     | 49     | 73     | 54     | 37     | 16     | 7      | 3      | 1      | 0      | 0      |
| 12:00       | 330   | 33,3  | 24,6  | 8,9   | 8     | 15    | 25     | 58     | 83     | 73     | 40     | 17     | 7      | 2      | 1      | 0      | 0      |
| 13:00       | 310   | 33,5  | 23,9  | 9,6   | 11    | 16    | 30     | 60     | 69     | 62     | 36     | 17     | 6      | 2      | 1      | 0      | 0      |
| 14:00       | 293   | 34,6  | 25,2  | 9,3   | 7     | 11    | 23     | 51     | 68     | 61     | 39     | 21     | 7      | 4      | 0      | 0      | 0      |
| 15:00       | 247   | 35,5  | 26,3  | 9,5   | 5     | 8     | 19     | 41     | 53     | 51     | 38     | 18     | 10     | 4      | 2      | 0      | 0      |
| 16:00       | 234   | 34,9  | 26,1  | 8,6   | 2     | 6     | 17     | 40     | 53     | 54     | 34     | 18     | 6      | 3      | 1      | 0      | 0      |
| 17:00       | 258   | 34,1  | 25,0  | 9,1   | 7     | 11    | 20     | 48     | 53     | 59     | 36     | 15     | 5      | 4      | 0      | 0      | 0      |
| 18:00       | 291   | 33,3  | 24,0  | 9,0   | 7     | 14    | 31     | 53     | 71     | 55     | 34     | 17     | 6      | 3      | 0      | 0      | 0      |
| 19:00       | 316   | 31,5  | 23,0  | 8,8   | 8     | 16    | 33     | 77     | 77     | 54     | 28     | 12     | 7      | 2      | 0      | 0      | 0      |
| 20:00       | 315   | 30,6  | 22,4  | 8,7   | 10    | 19    | 40     | 65     | 81     | 55     | 25     | 11     | 5      | 3      | 0      | 0      | 0      |
| 21:00       | 272   | 33,2  | 24,5  | 8,7   | 5     | 7     | 25     | 59     | 75     | 48     | 28     | 14     | 7      | 2      | 1      | 0      | 0      |
| 22:00       | 174   | 35,1  | 25,9  | 9,0   | 1     | 4     | 11     | 39     | 37     | 36     | 25     | 13     | 6      | 2      | 0      | 0      | 0      |
| 23:00       | 105   | 35,4  | 27,1  | 9,0   | 0     | 2     | 6      | 17     | 22     | 24     | 18     | 8      | 4      | 3      | 1      | 0      | 0      |
| Totales     |       |       |       |       |       |       |        |        |        |        |        |        |        |        |        |        |        |
| 12H,7-19    | 2982  | 40,2  | 30,3  | 9,6   | 65    | 111   | 229    | 514    | 693    | 639    | 399    | 197    | 84     | 43     | 8      | 0      | 0      |
| 16H,6-22    | 3932  | 37,2  | 28,0  | 9,6   | 88    | 153   | 330    | 721    | 934    | 808    | 489    | 240    | 106    | 53     | 9      | 0      | 0      |
| 18H,6-24    | 4211  | 35,5  | 26,3  | 9,6   | 89    | 159   | 347    | 777    | 993    | 868    | 532    | 262    | 117    | 58     | 10     | 0      | 0      |
| 24H,0-24    | 4414  | 35,5  | 26,3  | 9,6   | 89    | 160   | 351    | 812    | 1032   | 912    | 569    | 286    | 134    | 59     | 10     | 0      | 0      |
| AM          | 1100  | 05:00 | 05:00 | 04:00 | 11:00 | 11:00 | 11:00  | 11:00  | 11:00  | 10:00  | 11:00  | 10:00  | 09:00  | 07:00  | 07:00  | 11:00  | 11:00  |
| Valor Punta | 280   | 42,3  | 31,9  | 10,1  | 8     | 11    | 21     | 49     | 73     | 57     | 37     | 16     | 8      | 6      | 2      | 0      | 0      |
| PM          | 23:00 | 15:00 | 23:00 | 13:00 | 13:00 | 20:00 | 20:00  | 19:00  | 12:00  | 12:00  | 12:00  | 14:00  | 15:00  | 17:00  | 15:00  | 23:00  | 23:00  |
| Valor Punta | 330   | 35,5  | 27,1  | 9,6   | 11    | 19    | 40     | 77     | 83     | 73     | 40     | 21     | 10     | 4      | 2      | 0      | 0      |

## 12. Datos del aforo 06

### Duración de los Aforos:

00:00 lunes, 13 de septiembre 2012 => 23:00 domingo, 19 de septiembre 2012

### Identificador:

Vectio TN-06 (Tubo Neumático)

### Tipo de Datos:

Sensores de Ejes - En Pares (Clase, Velocidad, Recuento)

### Clases Incluidas:

1, 2, 3, 4, 5

### Esquema:

Clasificación Vehicular (FHWA)

### Intervalo de Velocidades:

10 - 200 km/h.

### Sentido de Circulación:

1: A-B = Ascendente (Entrada a Castro Urdiales)

2: B-A = Descendente (Salida de Castro Urdiales)

### Separación:

Todos - (Intervalo Vehicular)

### Unidades:

Métrico (metro, kilómetro, m/s, km/h, kg, Tonelada Métrica (kg))

### Localización del aforador:

Calle de Leonardo Rucabado (Zona Estación)

### Localización geográfica:

N 43°22'09.65"

O 3°12'58.22"

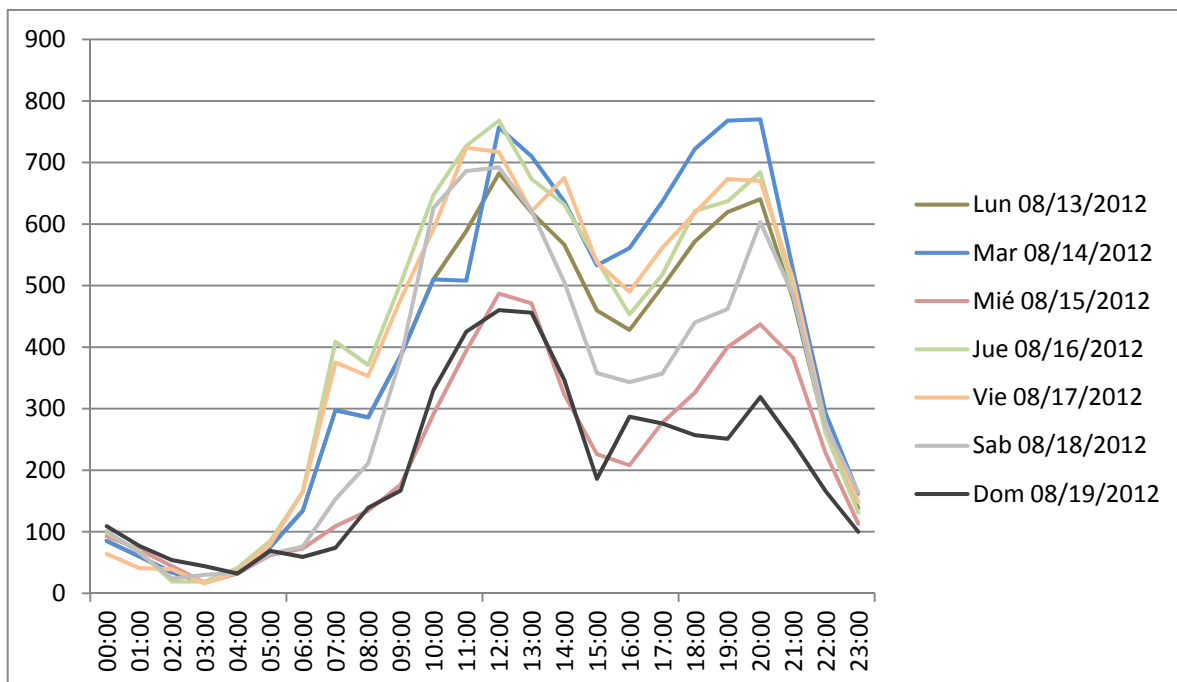
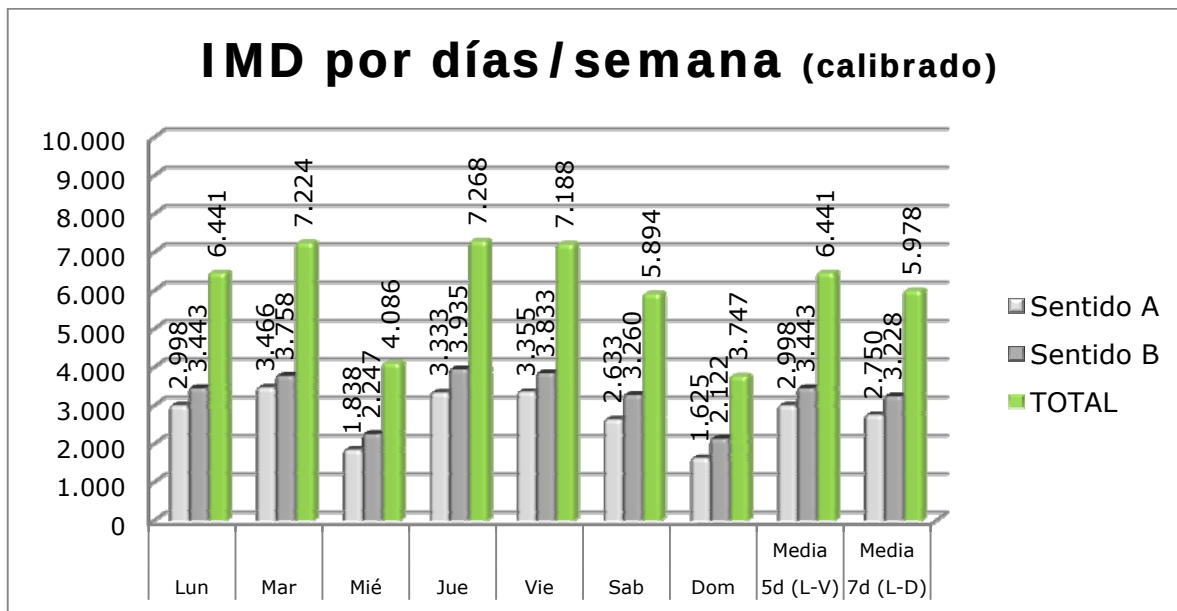
### Imagen

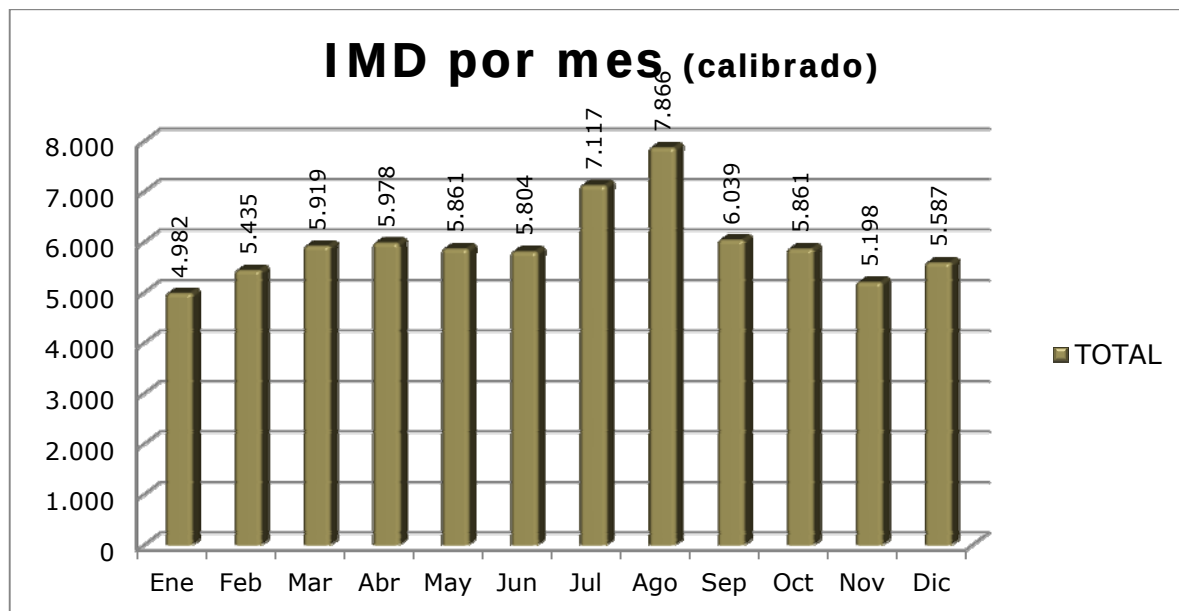


## 12.1. Volumen de vehículos – Total

|             | Lun        | Mar        | Mié        | Jue        | Vie        | Sab        | Dom        | 5d (L-V) | 7d (L-D) |
|-------------|------------|------------|------------|------------|------------|------------|------------|----------|----------|
|             | 08/13/2012 | 08/14/2012 | 08/15/2012 | 08/16/2012 | 08/17/2012 | 08/18/2012 | 08/19/2012 | Media    | Media    |
| 00:00       | 85         | 85         | 93         | 98         | 64         | 101        | 109        | 85       | 91       |
| 01:00       | 60         | 60         | 71         | 68         | 41         | 66         | 77         | 60       | 63       |
| 02:00       | 34         | 34         | 44         | 19         | 39         | 24         | 54         | 34       | 35       |
| 03:00       | 17         | 17         | 17         | 19         | 16         | 30         | 44         | 17       | 23       |
| 04:00       | 36         | 36         | 32         | 41         | 35         | 33         | 32         | 36       | 35       |
| 05:00       | 75         | 75         | 62         | 85         | 79         | 64         | 69         | 75       | 73       |
| 06:00       | 134        | 134        | 73         | 165        | 165        | 76         | 59         | 134      | 115      |
| 07:00       | 298        | 298        | 109        | 409        | 375        | 153        | 74         | 298      | 245      |
| 08:00       | 286        | 286        | 134        | 371        | 353        | 211        | 139        | 286      | 254      |
| 09:00       | 386        | 386        | 177        | 504        | 478        | 382        | 167        | 386      | 354      |
| 10:00       | 510        | 510        | 291        | 647        | 592        | 626        | 330        | 510      | 501      |
| 11:00       | 588        | 508        | 394        | 727        | 724        | 686        | 425        | 588      | 579      |
| 12:00       | 682        | 757        | 487        | 768        | 717        | 692        | 460        | 682      | 652      |
| 13:00       | 619        | 710        | 471        | 673        | 621        | 621        | 456        | 619      | 596      |
| 14:00       | 567        | 637        | 323        | 632        | 675        | 506        | 347        | 567      | 527      |
| 15:00       | 460        | 533        | 226        | 541        | 538        | 358        | 186        | 460      | 406      |
| 16:00       | 428        | 561        | 208        | 453        | 490        | 343        | 287        | 428      | 396      |
| 17:00       | 498        | 636        | 277        | 517        | 561        | 357        | 276        | 498      | 446      |
| 18:00       | 572        | 722        | 326        | 621        | 618        | 440        | 257        | 572      | 508      |
| 19:00       | 620        | 768        | 400        | 637        | 673        | 462        | 251        | 620      | 544      |
| 20:00       | 640        | 770        | 437        | 684        | 670        | 603        | 319        | 640      | 589      |
| 21:00       | 478        | 526        | 383        | 493        | 511        | 485        | 246        | 478      | 446      |
| 22:00       | 264        | 293        | 228        | 260        | 275        | 272        | 166        | 264      | 251      |
| 23:00       | 139        | 162        | 113        | 131        | 148        | 164        | 100        | 139      | 137      |
| 12h, 7-19   | 5.893      | 6.544      | 3.423      | 6.863      | 6.742      | 5.375      | 3.404      | 5.893    | 5.463    |
| 16h, 6-22   | 7.765      | 8.742      | 4.716      | 8.842      | 8.761      | 7.001      | 4.279      | 7.765    | 7.158    |
| 18h, 6-24   | 8.168      | 9.197      | 5.057      | 9.233      | 9.184      | 7.437      | 4.545      | 8.168    | 7.546    |
| 24h, 0-24   | 8.476      | 9.505      | 5.376      | 9.563      | 9.458      | 7.755      | 4.930      | 8.476    | 7.866    |
| AM          | 11:00      | 10:00      | 11:00      | 11:00      | 11:00      | 11:00      | 11:00      | 11:00    | 11:00    |
| Valor Punta | 588        | 510        | 394        | 727        | 724        | 686        | 425        | 588      | 579      |
| PM          | 12:00      | 20:00      | 12:00      | 12:00      | 12:00      | 12:00      | 12:00      | 12:00    | 12:00    |
| Valor Punta | 682        | 770        | 487        | 768        | 717        | 692        | 460        | 682      | 652      |

### 12.1.1. Gráficos de volumen de vehículos –Total

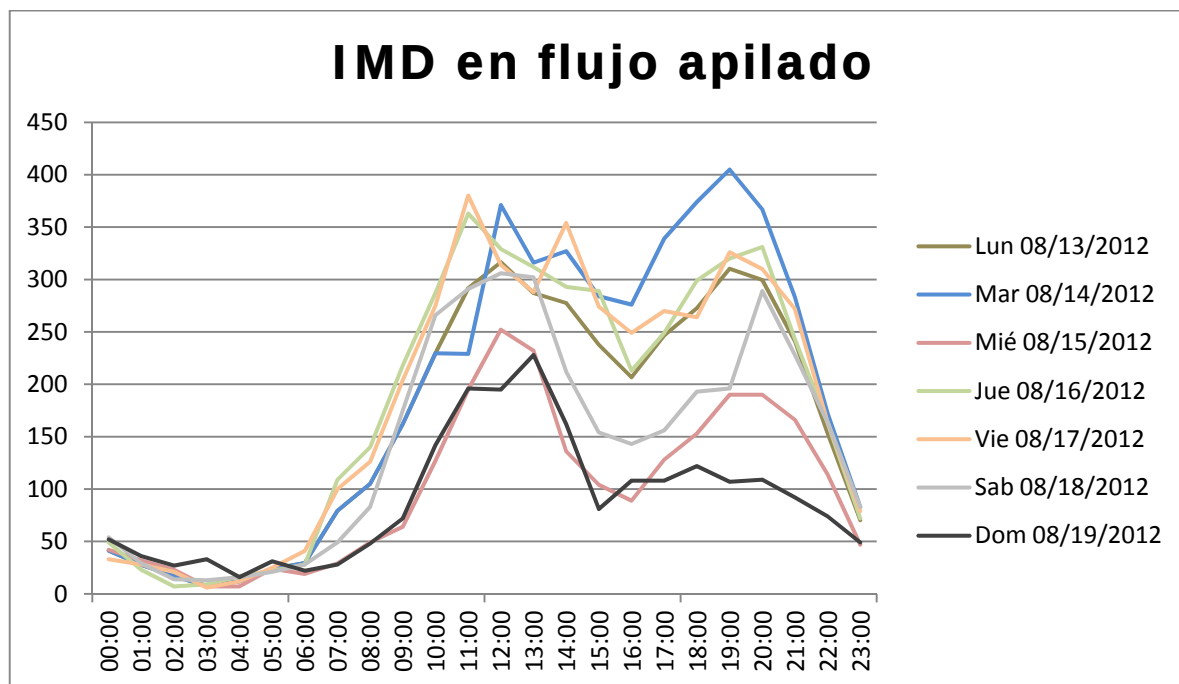
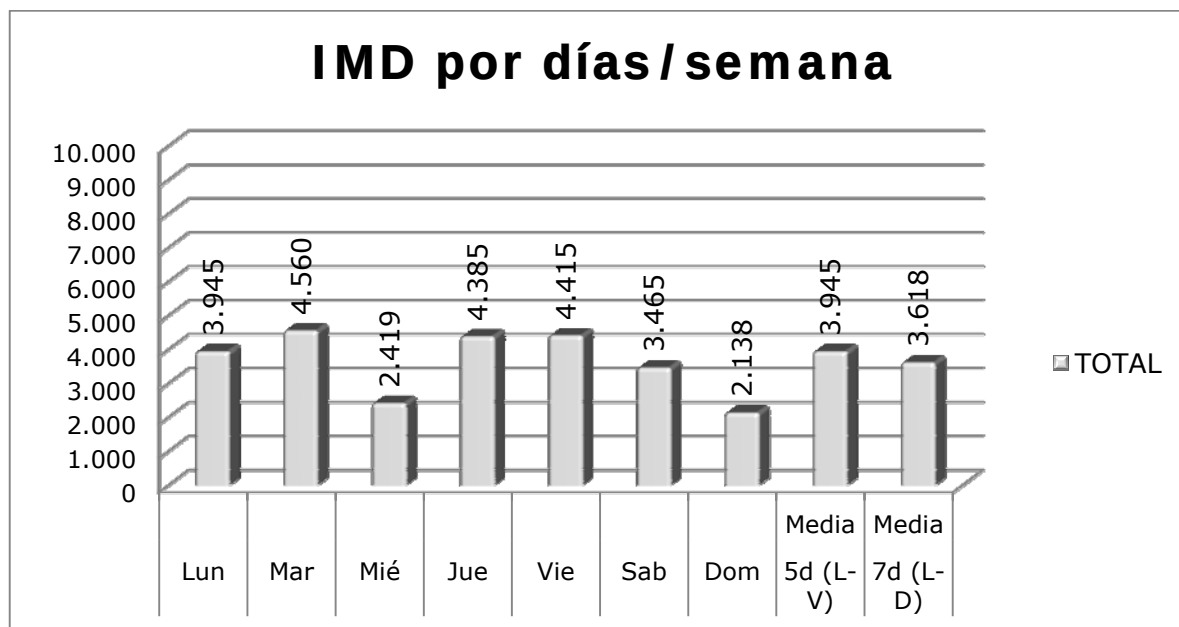




## 12.2. Volumen de vehículos – Sentido A

|             | Lun        | Mar        | Mié        | Jue        | Vie        | Sab        | Dom        | 5d (L-V) | 7d (L-D) |
|-------------|------------|------------|------------|------------|------------|------------|------------|----------|----------|
|             | 08/13/2012 | 08/14/2012 | 08/15/2012 | 08/16/2012 | 08/17/2012 | 08/18/2012 | 08/19/2012 | Media    | Media    |
| 00:00       | 41         | 41         | 42         | 49         | 33         | 54         | 52         | 41       | 45       |
| 01:00       | 28         | 28         | 32         | 23         | 28         | 29         | 36         | 28       | 29       |
| 02:00       | 17         | 17         | 23         | 7          | 21         | 14         | 27         | 17       | 18       |
| 03:00       | 7          | 7          | 7          | 9          | 6          | 13         | 33         | 7        | 12       |
| 04:00       | 12         | 12         | 7          | 17         | 12         | 16         | 16         | 12       | 13       |
| 05:00       | 24         | 24         | 24         | 22         | 25         | 21         | 31         | 24       | 24       |
| 06:00       | 29         | 29         | 19         | 28         | 41         | 28         | 22         | 29       | 28       |
| 07:00       | 79         | 79         | 29         | 109        | 100        | 49         | 28         | 79       | 68       |
| 08:00       | 105        | 105        | 49         | 140        | 126        | 83         | 48         | 105      | 94       |
| 09:00       | 162        | 162        | 64         | 218        | 204        | 175        | 72         | 162      | 151      |
| 10:00       | 230        | 230        | 127        | 287        | 275        | 266        | 142        | 230      | 222      |
| 11:00       | 292        | 229        | 195        | 363        | 380        | 291        | 196        | 292      | 278      |
| 12:00       | 317        | 371        | 252        | 329        | 314        | 306        | 195        | 317      | 298      |
| 13:00       | 287        | 316        | 232        | 312        | 288        | 302        | 228        | 287      | 281      |
| 14:00       | 278        | 327        | 136        | 293        | 354        | 212        | 162        | 278      | 252      |
| 15:00       | 238        | 284        | 104        | 289        | 274        | 154        | 81         | 238      | 203      |
| 16:00       | 207        | 276        | 89         | 213        | 249        | 143        | 108        | 207      | 184      |
| 17:00       | 247        | 339        | 128        | 249        | 270        | 156        | 108        | 247      | 214      |
| 18:00       | 273        | 374        | 153        | 299        | 264        | 193        | 122        | 273      | 240      |
| 19:00       | 310        | 405        | 190        | 320        | 326        | 196        | 107        | 310      | 265      |
| 20:00       | 300        | 367        | 190        | 331        | 310        | 289        | 109        | 300      | 271      |
| 21:00       | 241        | 283        | 166        | 243        | 272        | 228        | 92         | 241      | 218      |
| 22:00       | 153        | 172        | 114        | 163        | 164        | 164        | 74         | 153      | 143      |
| 23:00       | 70         | 83         | 47         | 72         | 79         | 83         | 49         | 70       | 69       |
| 12h, 7-19   | 2.712      | 3.092      | 1.558      | 3.101      | 3.098      | 2.330      | 1.490      | 2.712    | 2.483    |
| 16h, 6-22   | 3.592      | 4.176      | 2.123      | 4.023      | 4.047      | 3.071      | 1.820      | 3.592    | 3.265    |
| 18h, 6-24   | 3.816      | 4.431      | 2.284      | 4.258      | 4.290      | 3.318      | 1.943      | 3.816    | 3.477    |
| 24h, 0-24   | 3.945      | 4.560      | 2.419      | 4.385      | 4.415      | 3.465      | 2.138      | 3.945    | 3.618    |
| AM          | 11:00      | 10:00      | 11:00      | 11:00      | 11:00      | 11:00      | 11:00      | 11:00    | 11:00    |
| Valor Punta | 292        | 230        | 195        | 363        | 380        | 291        | 196        | 292      | 278      |
| PM          | 12:00      | 19:00      | 12:00      | 20:00      | 14:00      | 12:00      | 13:00      | 12:00    | 12:00    |
| Valor Punta | 317        | 405        | 252        | 331        | 354        | 306        | 228        | 317      | 298      |

### 12.2.1. Gráficos de volumen de vehículos –Sentido A

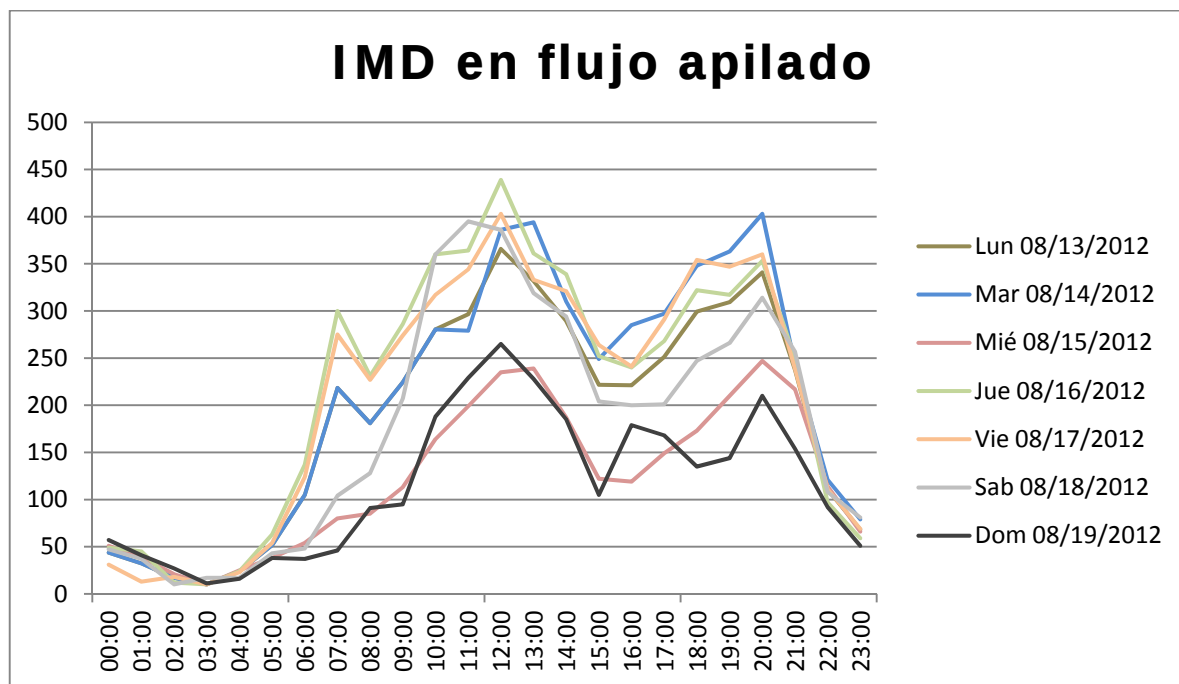
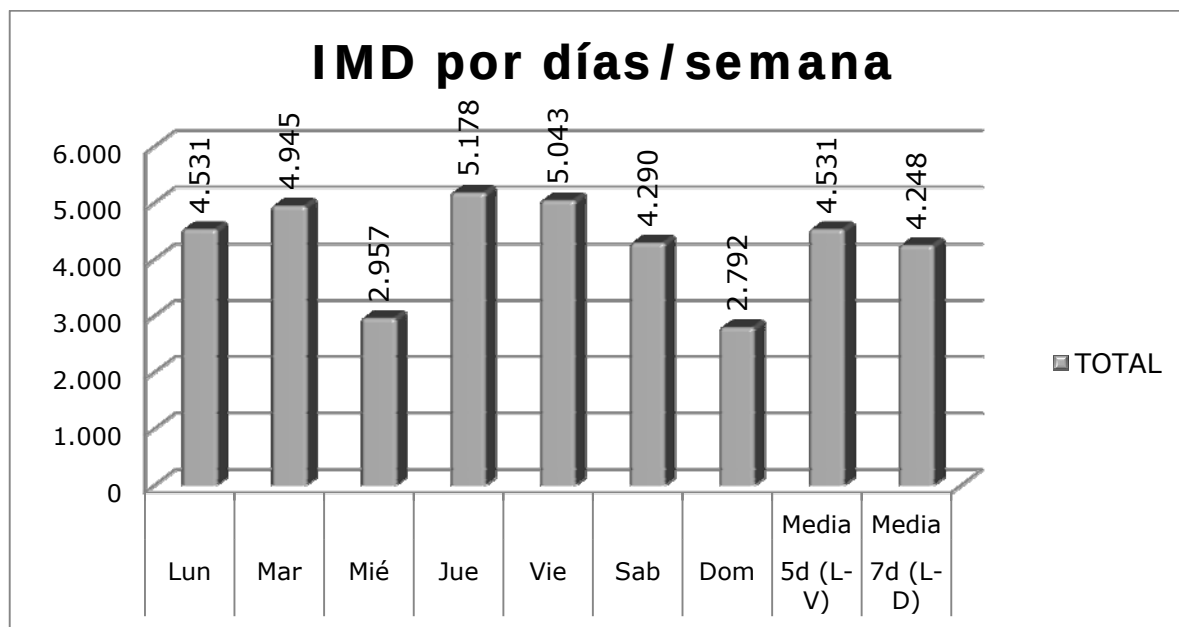




### 12.3. Volumen de vehículos – Sentido B

|             | Lun        | Mar        | Mié        | Jue        | Vie        | Sab        | Dom        | 5d (L-V) | 7d (L-D) |
|-------------|------------|------------|------------|------------|------------|------------|------------|----------|----------|
|             | 08/13/2012 | 08/14/2012 | 08/15/2012 | 08/16/2012 | 08/17/2012 | 08/18/2012 | 08/19/2012 | Media    | Media    |
| 00:00       | 44         | 44         | 51         | 49         | 31         | 47         | 57         | 44       | 46       |
| 01:00       | 32         | 32         | 39         | 45         | 13         | 37         | 41         | 32       | 34       |
| 02:00       | 17         | 17         | 21         | 12         | 18         | 10         | 27         | 17       | 17       |
| 03:00       | 10         | 10         | 10         | 10         | 10         | 17         | 11         | 10       | 11       |
| 04:00       | 24         | 24         | 25         | 24         | 23         | 17         | 16         | 24       | 22       |
| 05:00       | 52         | 52         | 38         | 63         | 54         | 43         | 38         | 52       | 48       |
| 06:00       | 105        | 105        | 54         | 137        | 124        | 48         | 37         | 105      | 87       |
| 07:00       | 218        | 218        | 80         | 300        | 275        | 104        | 46         | 218      | 177      |
| 08:00       | 181        | 181        | 85         | 231        | 227        | 128        | 91         | 181      | 161      |
| 09:00       | 224        | 224        | 113        | 286        | 274        | 207        | 95         | 224      | 203      |
| 10:00       | 280        | 280        | 164        | 360        | 317        | 360        | 188        | 280      | 279      |
| 11:00       | 297        | 279        | 199        | 364        | 344        | 395        | 229        | 297      | 301      |
| 12:00       | 366        | 386        | 235        | 439        | 403        | 386        | 265        | 366      | 354      |
| 13:00       | 332        | 394        | 239        | 361        | 333        | 319        | 228        | 332      | 315      |
| 14:00       | 289        | 310        | 187        | 339        | 321        | 294        | 185        | 289      | 275      |
| 15:00       | 222        | 249        | 122        | 252        | 264        | 204        | 105        | 222      | 203      |
| 16:00       | 221        | 285        | 119        | 240        | 241        | 200        | 179        | 221      | 212      |
| 17:00       | 251        | 297        | 149        | 268        | 291        | 201        | 168        | 251      | 232      |
| 18:00       | 299        | 348        | 173        | 322        | 354        | 247        | 135        | 299      | 268      |
| 19:00       | 309        | 363        | 210        | 317        | 347        | 266        | 144        | 309      | 279      |
| 20:00       | 341        | 403        | 247        | 353        | 360        | 314        | 210        | 341      | 318      |
| 21:00       | 237        | 243        | 217        | 250        | 239        | 257        | 154        | 237      | 228      |
| 22:00       | 111        | 121        | 114        | 97         | 111        | 108        | 92         | 111      | 108      |
| 23:00       | 68         | 79         | 66         | 59         | 69         | 81         | 51         | 68       | 68       |
| 12h, 7-19   | 3.181      | 3.452      | 1.865      | 3.762      | 3.644      | 3.045      | 1.914      | 3.181    | 2.980    |
| 16h, 6-22   | 4.173      | 4.566      | 2.593      | 4.819      | 4.714      | 3.930      | 2.459      | 4.173    | 3.893    |
| 18h, 6-24   | 4.352      | 4.766      | 2.773      | 4.975      | 4.894      | 4.119      | 2.602      | 4.352    | 4.069    |
| 24h, 0-24   | 4.531      | 4.945      | 2.957      | 5.178      | 5.043      | 4.290      | 2.792      | 4.531    | 4.248    |
| AM          | 11:00      | 10:00      | 11:00      | 11:00      | 11:00      | 11:00      | 11:00      | 11:00    | 11:00    |
| Valor Punta | 297        | 280        | 199        | 364        | 344        | 395        | 229        | 297      | 301      |
| PM          | 12:00      | 20:00      | 20:00      | 14:00      | 12:00      | 12:00      | 12:00      | 12:00    | 12:00    |
| Valor Punta | 366        | 403        | 247        | 439        | 403        | 386        | 265        | 366      | 354      |

### 12.3.1. Gráficos de volumen de vehículos –Sentido B



## 12.4. Clases de vehículos

### 12.4.1. Esquema de clasificación FHWA

| Ejes     | Grupos | Descripción                                     | Clase | Parámetros                                                                                               | Vehículo Dominante                                                                                                                                                         | Conjunto   |
|----------|--------|-------------------------------------------------|-------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 2        | 1      | Bicicleta o Moto                                | 1     | $d(1) < 1.7\text{m}$ & Ejes=2                                                                            |                                                                                         | 1 (Ligero) |
| 2, 3 o 4 | 1 o 2  | Turismo, Furgoneta ligera                       | 2     | $d(1) \geq 1.7\text{m}$ ,<br>$d(1) \leq 3.2\text{m}$ & Ejes=2                                            | <br> |            |
| 2, 3 o 4 | 1      | Caravana, Remolque, etc. Pick-ups y furgonetas. | 3     | grupos=3, $d(1) \geq 2.1\text{m}$ ,<br>$d(1) \leq 3.2\text{m}$ ,<br>$d(2) \geq 2.1\text{m}$ & Ejes=3,4,5 |                                                                                         |            |
| 2 o 3    | 1      | Bus                                             | 5     | $d(1) > 3.2\text{m}$ & Ejes=2                                                                            |                                                                                         | 2 (Medio)  |
| 2        | 1      | Camión rígido de dos ejes                       | 3     | Ejes=2 & grupos=1                                                                                        |                                                                                       |            |
| 3        | 1      | Camión rígido de tres ejes                      | 4     | Ejes>3 & grupos=2                                                                                        |                                                                                       |            |
| 4        | 1      | Camión articulado rígido de tres ejes           | 4     | $d(1) > 3.2\text{m}$ , Ejes=3 & grupos=4                                                                 |                                                                                       | 3 (Pesado) |
| 2 o 4    | 2      | Camión articulado rígido de cuatro ejes         | 5     | $d(2) < 2.1\text{m}$ o $d(1) < 2.1\text{m}$<br>o $d(1) > 3.2\text{m}$<br>Ejes = 4 & grupos>2             |                                                                                       |            |
| 5 o 6    | 2      | Camión articulado rígido de cinco ejes          | 5     | $d(2) < 2.1\text{m}$ o $d(1) < 2.1\text{m}$<br>o $d(1) > 3.2\text{m}$<br>Ejes=5 & grupos>2               |                                                                                       |            |
| 6 o 7    | 2      | Camión articulado rígido de seis ejes (o más)   | 5     | Ejes=6 & grupos>2 o<br>Ejes>6 & grupos=3                                                                 |                                                                                       |            |
| 5        | 3      | Camion con remolque                             | 5     | grupos=4 & Ejes>6                                                                                        |                                                                                       |            |
| 6        | 3      | Camion con remolque                             | 5     | grupos>=5 & Ejes>6                                                                                       |                                                                                       |            |
| 7        | >3     | Camión con remolque                             | 5     |                                                                                                          |                                                                                       |            |

Clase para vehículos inclasificables: 13

## 12.4.2. Clases de vehículos absolutos

|       | Total | Bin 1  | Bin 2   | Bin 3   | Bin 4    | Bin 5 |
|-------|-------|--------|---------|---------|----------|-------|
|       | Vol.  | <=2,8m | 2,8-5,2 | 5,2-6,5 | 6,5-11,5 | >11,5 |
| 00:00 | 91    | 3      | 63      | 22      | 1        | 2     |
| 01:00 | 63    | 2      | 48      | 13      | 0        | 0     |
| 02:00 | 35    | 1      | 23      | 11      | 0        | 0     |
| 03:00 | 23    | 1      | 16      | 5       | 0        | 0     |
| 04:00 | 35    | 0      | 27      | 7       | 1        | 0     |
| 05:00 | 73    | 1      | 66      | 6       | 0        | 1     |
| 06:00 | 115   | 2      | 96      | 14      | 0        | 3     |
| 07:00 | 245   | 5      | 220     | 16      | 4        | 0     |
| 08:00 | 254   | 5      | 203     | 44      | 2        | 0     |
| 09:00 | 354   | 7      | 283     | 56      | 7        | 1     |
| 10:00 | 501   | 18     | 384     | 91      | 7        | 1     |
| 11:00 | 579   | 23     | 451     | 93      | 11       | 2     |
| 12:00 | 652   | 30     | 498     | 108     | 15       | 2     |
| 13:00 | 596   | 27     | 478     | 75      | 15       | 1     |
| 14:00 | 527   | 19     | 402     | 99      | 7        | 0     |
| 15:00 | 406   | 12     | 323     | 64      | 7        | 0     |
| 16:00 | 396   | 16     | 308     | 61      | 9        | 2     |
| 17:00 | 446   | 22     | 349     | 66      | 9        | 1     |
| 18:00 | 508   | 26     | 397     | 72      | 14       | 0     |
| 19:00 | 544   | 24     | 431     | 75      | 12       | 2     |
| 20:00 | 589   | 21     | 479     | 72      | 15       | 3     |
| 21:00 | 446   | 12     | 339     | 81      | 14       | 1     |
| 22:00 | 251   | 7      | 186     | 48      | 7        | 4     |
| 23:00 | 137   | 5      | 98      | 28      | 1        | 4     |

### Totales

|          |       |     |       |       |     |    |
|----------|-------|-----|-------|-------|-----|----|
| 12H,7-19 | 5.463 | 208 | 4.296 | 846   | 105 | 8  |
| 16H,6-22 | 7.158 | 268 | 5.640 | 1.087 | 146 | 17 |
| 18H,6-24 | 7.546 | 279 | 5.924 | 1.164 | 154 | 26 |
| 24H,0-24 | 7.866 | 287 | 6.167 | 1.228 | 156 | 29 |

|             |       |       |       |       |       |       |
|-------------|-------|-------|-------|-------|-------|-------|
| AM          | 11:00 | 11:00 | 11:00 | 11:00 | 11:00 | 11:00 |
| Valor Punta | 579   | 23    | 451   | 93    | 11    | 3     |

|             |       |       |       |       |       |       |
|-------------|-------|-------|-------|-------|-------|-------|
| PM          | 21:00 | 18:00 | 13:00 | 14:00 | 13:00 | 22:00 |
| Valor Punta | 652   | 30    | 498   | 108   | 15    | 4     |

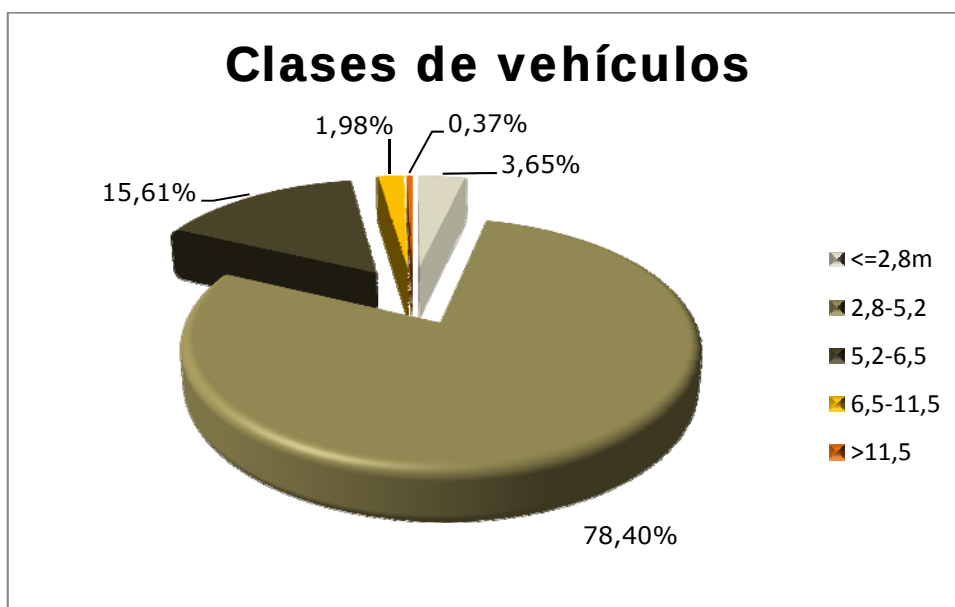
### 12.4.3. Clases de vehículos porcentuales

|       | Total | Bin 1  | Bin 2   | Bin 3   | Bin 4    | Bin 5 |
|-------|-------|--------|---------|---------|----------|-------|
|       | Vol.  | <=2,8m | 2,8-5,2 | 5,2-6,5 | 6,5-11,5 | >11,5 |
| 00:00 | 91    | 3,54%  | 69,03%  | 23,89%  | 0,88%    | 2,65% |
| 01:00 | 63    | 2,47%  | 76,54%  | 20,99%  | 0,00%    | 0,00% |
| 02:00 | 35    | 3,45%  | 65,52%  | 31,03%  | 0,00%    | 0,00% |
| 03:00 | 23    | 5,88%  | 70,59%  | 23,53%  | 0,00%    | 0,00% |
| 04:00 | 35    | 0,00%  | 77,14%  | 20,00%  | 2,86%    | 0,00% |
| 05:00 | 73    | 1,11%  | 90,00%  | 7,78%   | 0,00%    | 1,11% |
| 06:00 | 115   | 1,93%  | 83,09%  | 12,56%  | 0,00%    | 2,42% |
| 07:00 | 245   | 2,07%  | 89,88%  | 6,61%   | 1,45%    | 0,00% |
| 08:00 | 254   | 1,86%  | 79,96%  | 17,36%  | 0,83%    | 0,00% |
| 09:00 | 354   | 2,08%  | 79,76%  | 15,92%  | 2,08%    | 0,17% |
| 10:00 | 501   | 3,60%  | 76,76%  | 18,17%  | 1,31%    | 0,16% |
| 11:00 | 579   | 3,90%  | 77,89%  | 16,12%  | 1,82%    | 0,26% |
| 12:00 | 652   | 4,59%  | 76,33%  | 16,50%  | 2,30%    | 0,29% |
| 13:00 | 596   | 4,50%  | 80,21%  | 12,59%  | 2,55%    | 0,15% |
| 14:00 | 527   | 3,63%  | 76,26%  | 18,85%  | 1,26%    | 0,00% |
| 15:00 | 406   | 2,92%  | 79,69%  | 15,69%  | 1,69%    | 0,00% |
| 16:00 | 396   | 3,96%  | 77,85%  | 15,51%  | 2,22%    | 0,47% |
| 17:00 | 446   | 4,86%  | 78,20%  | 14,73%  | 2,06%    | 0,15% |
| 18:00 | 508   | 5,05%  | 78,12%  | 14,17%  | 2,66%    | 0,00% |
| 19:00 | 544   | 4,43%  | 79,17%  | 13,74%  | 2,22%    | 0,44% |
| 20:00 | 589   | 3,52%  | 81,28%  | 12,16%  | 2,56%    | 0,48% |
| 21:00 | 446   | 2,69%  | 75,94%  | 18,13%  | 3,05%    | 0,18% |
| 22:00 | 251   | 2,60%  | 73,97%  | 19,09%  | 2,60%    | 1,74% |
| 23:00 | 137   | 3,36%  | 71,81%  | 20,81%  | 1,01%    | 3,02% |

#### Totals

|          |       |         |        |        |         |       |
|----------|-------|---------|--------|--------|---------|-------|
| 12H,7-19 | 5.463 | 3,82%   | 78,63% | 15,48% | 1,93%   | 0,15% |
| 16H,6-22 | 7.158 | 3,74%   | 78,79% | 15,19% | 2,04%   | 0,24% |
| 18H,6-24 | 7.546 | 3,69%   | 78,51% | 15,42% | 2,04%   | 0,34% |
| 24H,0-24 | 7.866 | 3,65%   | 78,40% | 15,61% | 1,98%   | 0,37% |
|          |       | Ligeros |        |        | Pesados |       |
| Am       | 11:00 | 11:00   | 11:00  | 11:00  | 11:00   | 11:00 |
| Peak     | 579   | 23      | 451    | 93     | 11      | 3     |
| Am       | 21:00 | 18:00   | 13:00  | 14:00  | 13:00   | 22:00 |
| Peak     | 652   | 30      | 498    | 108    | 15      | 4     |

#### 12.4.4. Gráficos de clases de vehículos



## 12.5. Velocidades

|             | Total | 85th | Mean | Std. | Bin 1 | Bin 2 | Bin 3  | Bin 4  | Bin 5  | Bin 6  | Bin 7  | Bin 8  | Bin 9  | Bin 10 | Bin 11 | Bin 12 | Bin 13 |
|-------------|-------|------|------|------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|             | Vol.  | %ile | Ave. | Dev. | <6Kph | 6-<11 | 11-<16 | 16-<21 | 21-<26 | 26-<31 | 31-<36 | 36-<41 | 41-<46 | 46-<51 | 51-<56 | 56-<61 | >=61   |
| 00:00       | 91    | 40,3 | 34,1 | 6,7  | 0     | 1     | 0      | 2      | 6      | 15     | 23     | 15     | 14     | 10     | 2      | 2      | 1      |
| 01:00       | 63    | 43,2 | 35,8 | 6,0  | 0     | 0     | 0      | 0      | 2      | 2      | 17     | 14     | 13     | 7      | 2      | 5      | 1      |
| 02:00       | 35    | 41,4 | 34,6 | 6,0  | 0     | 0     | 0      | 0      | 0      | 6      | 5      | 11     | 4      | 6      | 2      | 1      | 1      |
| 03:00       | 23    | 40,7 | 34,5 | 4,6  | 0     | 0     | 0      | 0      | 0      | 1      | 1      | 8      | 9      | 1      | 0      | 1      | 0      |
| 04:00       | 35    | 41,8 | 35,3 | 6,3  | 0     | 0     | 0      | 0      | 0      | 3      | 11     | 6      | 6      | 2      | 5      | 2      | 0      |
| 05:00       | 73    | 40,7 | 35,0 | 6,0  | 0     | 1     | 0      | 0      | 4      | 5      | 17     | 22     | 13     | 5      | 4      | 2      | 1      |
| 06:00       | 115   | 39,6 | 33,3 | 5,5  | 0     | 0     | 0      | 1      | 7      | 11     | 34     | 29     | 17     | 9      | 2      | 4      | 1      |
| 07:00       | 245   | 39,2 | 33,2 | 4,9  | 0     | 0     | 0      | 2      | 14     | 67     | 66     | 49     | 30     | 10     | 4      | 1      | 1      |
| 08:00       | 254   | 39,6 | 33,4 | 5,2  | 0     | 0     | 0      | 1      | 14     | 55     | 75     | 59     | 30     | 11     | 6      | 4      | 0      |
| 09:00       | 354   | 38,9 | 32,9 | 5,5  | 0     | 0     | 1      | 3      | 15     | 58     | 102    | 84     | 57     | 19     | 10     | 6      | 0      |
| 10:00       | 501   | 38,5 | 32,6 | 5,3  | 0     | 0     | 2      | 6      | 17     | 83     | 153    | 107    | 88     | 25     | 13     | 7      | 0      |
| 11:00       | 579   | 37,8 | 31,8 | 5,0  | 0     | 0     | 4      | 4      | 39     | 140    | 175    | 128    | 62     | 17     | 5      | 6      | 0      |
| 12:00       | 652   | 37,8 | 31,5 | 5,4  | 0     | 0     | 0      | 6      | 40     | 149    | 192    | 120    | 84     | 40     | 15     | 7      | 0      |
| 13:00       | 596   | 38,5 | 32,5 | 5,1  | 0     | 0     | 2      | 2      | 44     | 154    | 145    | 132    | 76     | 25     | 7      | 8      | 0      |
| 14:00       | 527   | 39,6 | 33,4 | 5,5  | 0     | 0     | 1      | 3      | 34     | 101    | 128    | 129    | 74     | 39     | 13     | 4      | 1      |
| 15:00       | 406   | 41,0 | 34,8 | 5,2  | 0     | 0     | 1      | 1      | 14     | 82     | 112    | 90     | 58     | 37     | 7      | 3      | 0      |
| 16:00       | 396   | 40,3 | 34,4 | 5,7  | 0     | 0     | 0      | 6      | 21     | 93     | 113    | 72     | 51     | 27     | 9      | 4      | 0      |
| 17:00       | 446   | 41,0 | 34,2 | 5,1  | 0     | 0     | 1      | 2      | 34     | 98     | 131    | 95     | 60     | 16     | 4      | 5      | 0      |
| 18:00       | 508   | 39,2 | 32,5 | 5,2  | 0     | 1     | 2      | 11     | 43     | 137    | 138    | 99     | 51     | 20     | 3      | 4      | 0      |
| 19:00       | 544   | 38,2 | 31,8 | 4,7  | 0     | 0     | 2      | 10     | 43     | 154    | 137    | 89     | 38     | 13     | 6      | 2      | 0      |
| 20:00       | 589   | 37,4 | 31,0 | 4,5  | 0     | 0     | 3      | 10     | 70     | 136    | 173    | 91     | 44     | 10     | 2      | 0      | 0      |
| 21:00       | 446   | 38,5 | 32,0 | 5,1  | 0     | 0     | 1      | 7      | 19     | 116    | 146    | 86     | 40     | 18     | 6      | 6      | 0      |
| 22:00       | 251   | 40,3 | 34,3 | 5,9  | 1     | 1     | 2      | 3      | 13     | 46     | 69     | 60     | 33     | 10     | 9      | 4      | 0      |
| 23:00       | 137   | 41,0 | 34,7 | 6,2  | 0     | 0     | 0      | 1      | 7      | 23     | 35     | 27     | 21     | 11     | 6      | 4      | 0      |
| Totales     |       |      |      |      |       |       |        |        |        |        |        |        |        |        |        |        |        |
| 12H,7-19    | 5463  | 41,0 | 34,8 | 5,7  | 0     | 1     | 13     | 46     | 329    | 1216   | 1530   | 1165   | 721    | 286    | 97     | 58     | 1      |
| 16H,6-22    | 7158  | 41,0 | 34,8 | 5,7  | 0     | 1     | 19     | 75     | 469    | 1684   | 2069   | 1460   | 860    | 336    | 113    | 70     | 2      |
| 18H,6-24    | 7546  | 41,0 | 34,8 | 5,7  | 1     | 2     | 22     | 79     | 489    | 1753   | 2173   | 1548   | 914    | 358    | 128    | 78     | 2      |
| 24H,0-24    | 7866  | 41,0 | 34,8 | 5,7  | 1     | 4     | 22     | 82     | 500    | 1785   | 2248   | 1623   | 972    | 389    | 145    | 91     | 5      |
| AM          |       |      |      |      |       |       |        |        |        |        |        |        |        |        |        |        |        |
| Valor Punta | 579   | 43,2 | 35,8 | 6,7  | 0     | 1     | 4      | 6      | 39     | 140    | 175    | 128    | 88     | 25     | 13     | 7      | 1      |
| PM          |       |      |      |      |       |       |        |        |        |        |        |        |        |        |        |        |        |
| Valor Punta | 652   | 41,0 | 34,8 | 6,2  | 1     | 1     | 3      | 11     | 70     | 136    | 192    | 132    | 84     | 40     | 15     | 8      | 1      |

# F. CONTROL DE CALIDAD



## F. CONTROL DE CALIDAD

### 13. Diseño y control del documento

#### 13.1. Control de diseño

##### Recopilación y análisis de documentación externa

| Documento                          | Soporte | Entregado por  | Fecha Recog | Fecha devol |
|------------------------------------|---------|----------------|-------------|-------------|
| Cartografía viario Castro Urdiales | Digital | Ana M. Jaurena | 20.07.2012  | N.P.        |
| Estadísticas Viviendas/Población   | Digital | Ana M. Jaurena | 20.07.2012  | N.P.        |
| Semaforización                     | Digital | J.A.Arizmendi  | 21.07.2012  | N.P.        |
| Regulación estacionamientos        | Digital | J.A.Arizmendi  | 21.07.2012  | N.P.        |
| Accidentabilidad                   | Digital | J.A.Arizmendi  | 21.07.2012  | N.P.        |
| Censo vehicular                    | Digital | J.A.Arizmendi  | 21.07.2012  | N.P.        |
| Demanda Transporte Interurbano     | Digital | J.A.Arizmendi  | 21.07.2012  | N.P.        |
| Datos Económicos y Sociales        | Digital | J.A.Arizmendi  | 21.07.2012  | N.P.        |
| Líneas Urbanas Alsa                | Digital | Ana M. Jaurena | 22.08.2012  | N.P.        |

##### Revisión de etapas del proyecto

| Persona | Fecha Edición | Responsabilidades                                                                                                        |
|---------|---------------|--------------------------------------------------------------------------------------------------------------------------|
| JRR     | 22.10.2010    | Edición Memoria Técnica. Modelos matemáticos. Estudio de tráfico y movilidad. Validación de simulación de tráfico        |
| RVP     | 22.10.2010    | Planimetría y delineación. Infografía. Simulación de tráfico.                                                            |
| AAF     | 11.10.2010    | Delineación. Edición de simulación de tráfico. Tratamiento de encuestas. Procesamiento de vídeos. Tratamiento de aforos. |

##### Control de subcontratación

| Empresa | Fecha         | Responsabilidades                                                                     |
|---------|---------------|---------------------------------------------------------------------------------------|
| Ananda  | 23/24.08.2012 | Selección y contratación de encuestadores. Realización de encuestas persona a persona |

##### Legislación medioambiental aplicable

N.P.

## 13.2. Control del documento técnico

### Revisión y verificación del documento técnico

| Rev | Fecha Entrega | Persona | Comentarios         |
|-----|---------------|---------|---------------------|
| 00  | 19.11.2010    | CSV     | Borrador de memoria |

### Validación del documento técnico

| Rev | Fecha Verif. | Persona | Comentarios |
|-----|--------------|---------|-------------|
|-----|--------------|---------|-------------|