

**TRAFFIC AND TRANSPORTATION COMMITTEE
(TRANSPORTATION AND TRANSIT DIVISION)**

HIS WORSHIP, THE MAYOR
AND COUNCILLORS

Re: Lakeview Area Traffic Calming Monitoring

RECOMMENDATIONS:

1. **THAT** Council approve issuance of a petition according to Section 631 of the Local Government Act for the approval of abutting property owners on Lakefield Drive north of Reigate for the installation of speed humps as outlined in this report.
2. **THAT** Council authorize staff to monitor the traffic volumes and vehicle speeds on streets in the area six months after the installation of the speed humps and report the results of this monitoring to the Traffic and Transportation Committee.
3. **THAT** copies of this report be sent to all residents on Lakefield Drive north of Reigate and on 6th Street and Reigate between Nursery and Lakefield Drive.

REPORT

The Traffic and Transportation Committee (Transportation and Transit Division), at its meeting held on 2002 February 13, received and adopted the attached report addressing traffic volume and speed issues on Lakefield Drive north of Reigate.

The report is based on results of the monitoring of traffic volumes and speeds on Lakefield Drive and 4th Street, south of Reigate after the implementation of the traffic calming program. Residents south of Reigate have benefitted in terms of reduced traffic volumes and speeds; however, residents north of Reigate have been impacted by increased traffic volumes and speeds. The residents north of Reigate have responded positively in a questionnaire survey and in appearance before the Committee to a speed hump LIP initiative; therefore, it is recommended that the residents of Lakefield Drive be offered the opportunity to participate in the speed hump program.

Respectfully submitted,

Councillor N. Volkow
Chair

Copy: City Manager
Director Planning & Building
Director Engineering

Councillor D. Evans
Vice Chair

Councillor B. Der
Member

TO: CHAIR AND MEMBERS
TRAFFIC AND TRANSPORTATION COMMITTEE
(Transportation and Transit Division)

2002 February 06

FROM: DIRECTOR PLANNING & BUILDING

OUR FILE: 08.116.11

SUBJECT: LAKEVIEW AREA TRAFFIC CALMING MONITORING

PURPOSE: To advise the Traffic and Transportation Committee on an approach to address the traffic volume and speed issues on Lakefield Drive north of Reigate based on the results of the monitoring of traffic volumes and speeds in the Lakeview area before and after the implementation of the traffic calming program in the area.

RECOMMENDATIONS:

1. **THAT** Council be requested to approve issuance of a petition according to Section 631 of the Local Government Act for the approval of abutting property owners on Lakefield Drive north of Reigate for the installation of speed humps as outlined in this report.
2. **THAT** if the speed hump LIP on Lakefield Drive is approved, staff be directed to monitor the traffic volumes and vehicle speeds on streets in the area six months after the installation of the speed humps and report the results of this monitoring to the Traffic and Transportation Committee.
3. **THAT** copies of this report be sent to all residents on Lakefield Drive north of Reigate and on 6th Street and Reigate between Nursery and Lakefield Drive.

REPORT

1.0 BACKGROUND

At its regular meeting of 2000 May 10, the Traffic and Transportation Committee approved Local Improvement Program for the implementation of traffic calming measures on Lakefield and on 4th Street between 16th Avenue and Reigate to address the issues of traffic shortcutting and traffic speeds. Letters were forwarded to owners of all properties on Lakefield and on 4th Street between 16th Avenue and Reigate Avenue informing of the proposal for speed humps and requesting a response if they were opposed to the proposal. As sufficient negative responses were not received, the LIP was approved and the speed humps were implemented on 4th Street in 2001 February.

The Committee also directed staff to monitor the traffic volumes and speeds on streets in the Lakeview area before and after the implementation of the speed humps. This direction was in response to the following positions expressed by residents of the streets that were not offered the option of speed humps including:

- **Residents of Lakefield north of Reigate** - the results of the initial questionnaire survey done prior to the speed hump program indicated 68% in favour of speed humps on their street. Subsequently, on 2001 September 13 a number of residents appeared before the Committee as a delegation to show their support for their inclusion in the speed hump LIP.
- **Residents of both 6th Street and Reigate Avenue** - in the questionnaire survey these residents opposed the implementation of speed humps on their streets and on Lakefield north of Reigate due to the potential for traffic to be diverted to their streets to avoid the speed humps on Lakefield/4th Street, south of Reigate.

As a result of these conflicting positions, the Committee decided to postpone consideration of speed humps on Lakefield north of Reigate until more information was received from the monitoring program regarding the impact of the speed humps on traffic volumes and vehicle speeds on streets in the area.

2.0 MONITORING PROGRAM

2.1 Process

The monitoring program was carried out to measure traffic volumes and traffic speeds on streets in the area before and after the implementation of speed humps on Lakefield between 16th Avenue and Reigate. As shown in *Figure 1 (attached)*, traffic monitoring equipment was set up on streets with speed humps (Lakefield Drive just south of Reigate) and on streets without speed humps (Lakefield north of Reigate and on 6th Street/Reigate from Lakefield to Nursery).

The equipment measured traffic volumes and vehicle speeds in both directions for each hour of a twenty-hour day for a period of five days including three consecutive weekdays and the two weekend days. The monitoring occurred on 2000 November 18-22 and almost one year later on 2001 November 8-12.

2.2 Peak Period Traffic Volumes

The results summarized in *Table 1* indicate that traffic volume on 4th Street south of Reigate where speed humps have been installed declined by approximately 10% from 2000 November to 2001 November in both the AM and PM peak periods. However, on those streets without speed humps, on Lakefield north of Reigate and on 6th Street, traffic volumes have tended to increase particularly southbound on Lakefield during the PM peak period (126%) and southbound on 6th Street during the AM peak period (24%).

These results suggest that there has been some diversion of traffic away from the 4th Street section of the 4th Street/Lakefield Corridor to avoid the speed humps. The increase in traffic volumes on 6th and on Lakefield north of Reigate suggests that many of these diverted trips may be local trips originating or destined within the area and using Canada Way/Burris to get in and out of their neighbourhood.

Table 1
Lakeview Traffic Calming Monitoring
AM and PM Peak Period Traffic Volumes (6-9 AM and 3-6 PM)

| Location | AM Peak Period | | | PM Peak Period | | |
|--|----------------|------|------------|----------------|------|------------|
| | 2000 | 2001 | Percentage | 2000 | 2001 | Percentage |
| Streets with Speed Humps | | | | | | |
| <i>Lakefield/4th St (South of Reigate)</i> | | | | | | |
| <i>Northbound</i> | 409 | 358 | -12% | 127 | 110 | -13% |
| <i>Southbound</i> | 60 | 65 | 8% | 359 | 331 | -8% |
| <i>Total</i> | 469 | 423 | -10% | 486 | 441 | -9% |
| Streets without Speed Humps | | | | | | |
| <i>Lakefield (North of Reigate)</i> | | | | | | |
| <i>Northbound</i> | 422 | 401 | -5% | 85 | 90 | 6% |
| <i>Southbound</i> | 7 | 35 | 400% | 129 | 292 | 126% |
| <i>Total</i> | 429 | 436 | 2% | 214 | 382 | 79% |
| <i>6th Street (Allman-Stanley)</i> | | | | | | |
| <i>Northbound</i> | 155 | 162 | 5% | 174 | 163 | -6% |
| <i>Southbound</i> | 46 | 57 | 24% | 107 | 113 | 6% |
| <i>Total</i> | 201 | 219 | 9% | 281 | 276 | -2% |

2.3 AM and PM Peak Period Traffic Speeds

As shown in *Table 2*, traffic speeds at the 85th percentile (i.e. 85% of the vehicles were traveling at or less than this speed) were also measured before and after the installation of the speed humps. The results show that traffic speeds during peak periods are significantly lower on Lakefield south of Reigate (approximately 45 kph) where speed humps have been installed than on Lakefield north of Reigate (approximately 63 kph) or 6th Street (approximately 54 kph).

However, as the location of the speed counter was near the existing speed hump adjacent to the park, the results for 4th Street show very little difference in speeds between 2000 and 2001. The speeds in 2000 were already reduced due to the proximity of the counter to the existing speed hump. On Lakefield north of Reigate and on 6th Street however, traffic speeds increased significantly ranging from 4% to 28% between 2000 and 2001 for both directions and both peak periods.

Drivers appear to be increasing their speed in the sections of the corridor without speed humps to account for the increased delay in the 4th Street section. This phenomenon is especially acute in the Lakefield north of Reigate section where there was a 28% increase in southbound travel speeds from 2000 to 2001.

Table 2
Lakeview Traffic Calming Monitoring
85th Percentile Vehicle Speeds (kph)

| Location | AM Peak Period | | | PM Peak Period | | |
|--|----------------|------|------------|----------------|------|------------|
| | 2000 | 2001 | Percentage | 2000 | 2001 | Percentage |
| Streets with Speed Humps | | | | | | |
| <i>Lakefield/4th St (South of Reigate)</i> | | | | | | |
| Northbound | 45 | 45 | 0% | 46 | 46 | 0% |
| Southbound | 46 | 46 | 0% | 45 | 45 | 0% |
| Streets without Speed Humps | | | | | | |
| <i>Lakefield (North of Reigate)</i> | | | | | | |
| Northbound | 60 | 63 | 5% | 58 | 64 | 10% |
| Southbound | 55 | 62 | 13% | 88 | 63 | -28% |
| <i>6th St (Allman-Stanley)</i> | | | | | | |
| Northbound | 53 | 59 | 11% | 50 | 52 | 4% |
| Southbound | 50 | 54 | 8% | 51 | 55 | 8% |

2.4 All Day Traffic Volumes and Vehicle Speeds

Table 3 and Figures 2 and 3 (attached) presents the results of the traffic volume and speed measurements over a 24-hour period for 2001 and 2002. The results confirm that traffic has decreased on 4th Street by approximately 10% and vehicle speeds have also declined slightly after the installation of the speed humps.

On those streets without speed humps, however, traffic volumes have increased especially in the southbound direction on Lakefield Drive north of Reigate (134%). This pattern would suggest that local traffic destined for the Lakeview neighbourhood north of Reigate is diverting around the speed humps from the south to access their homes.

Vehicle speeds have also increased by 5% on 6th Street and 10% on Lakefield north of Reigate in the northbound direction. This pattern suggests that some drivers are attempting to regain time lost to delay on Lakefield/4th Street south of Reigate due to the speed humps.

Table 3
 Lakeview Traffic Calming Monitoring
 Traffic Volumes and Average Vehicle Speeds (kph)

| Location | 24 Hour Volumes | | | Average Speeds | | |
|---|-----------------|------|------------|----------------|------|------------|
| | 2000 | 2001 | Percentage | 2000 | 2001 | Percentage |
| Streets with Speed Humps | | | | | | |
| <i>Lakefield/4th St. (South of Reigate)</i> | | | | | | |
| <i>Northbound</i> | 858 | 753 | -12% | 38 | 38 | 0% |
| <i>Southbound</i> | 833 | 770 | -8% | 37 | 34 | -8% |
| <i>Total</i> | 1691 | 1523 | -10% | | | |
| Streets without Speed Humps | | | | | | |
| <i>Lakefield (North of Reigate)</i> | | | | | | |
| <i>Northbound</i> | 805 | 764 | -5% | 50 | 55 | 10% |
| <i>Southbound</i> | 276 | 645 | 134% | 57 | 53 | -7% |
| <i>Total</i> | 1081 | 1409 | 30% | | | |
| <i>6th St (Allman -Stanley)</i> | | | | | | |
| <i>Northbound</i> | 618 | 648 | 5% | 41 | 43 | 5% |
| <i>Southbound</i> | 580 | 573 | -1% | 41 | 43 | 5% |
| <i>Total</i> | 1198 | 1221 | 2% | | | |

3.0 RECOMMENDED APPROACH

3.1 Conclusions from the Monitoring Program

The results of the Lakeview traffic calming monitoring have provided useful information to evaluate the success of the speed hump program and to address the following issues that the monitoring program was intended to address:

- *Are speed humps warranted on Lakefield Drive north of Reigate and on 6th Street/Reigate?*

Both Lakefield Drive north of Reigate and 6th Street/Reigate have experienced increases in traffic volumes and speeds due to the installation of the speed humps on 4th Street. However, as shown in **Figure 2 (attached)** Lakefield has been more adversely affected than 6th Street/Reigate with traffic volumes over a 24-hour period increasing 30% and northbound traffic speeds increasing by 10%. On 6th Street/Reigate, the traffic volume increase of 2% between 2000 and 2001 could be considered normal traffic growth, while the increase in the already lower traffic speeds on 6th Street/Reigate from an average of 41 kph to 43 kph would not be noticeable to residents.

- *Should the residents of Lakefield Drive north of Reigate and of 6th Street/Reigate be offered the opportunity for a LIP for speed humps?*

In view of the worsened conditions on Lakefield Drive due to the installation of speed humps and the high degree of support by Lakefield residents for traffic calming on their street as evidenced by the questionnaire survey results and their subsequent delegation before the Committee, it is recommended that the residents of Lakefield Drive north of Reigate be offered the same opportunity for traffic calming as were the residents of 4th Street/Lakefield south of Reigate.

Traffic conditions on 6th Street/Reigate, however, have not changed significantly since the installation of the speed humps on 4th/Lakefield north of Reigate. Moreover, as the residents have expressed opposition to speed humps on their street, it is doubtful that a LIP on 6th Street and on Reigate is either warranted or would be successful at this time.

- *If speed humps are installed on Lakefield Drive north of Reigate as well, would traffic volumes and speeds increase on 6th Street/Reigate?*

The results of the monitoring have shown that drivers will select other routes to avoid speed humps and other traffic calming devices. Therefore if speed humps are implemented on Lakefield Drive traffic volumes on 6th Street/Reigate could increase.

Vehicle speeds on 6th Street/Reigate could also increase but average speeds on 6th Street at 43 kph are already well under the speed limit and have not increased appreciably due to drivers having to make up for the delay on 4th Street. The lower vehicle speeds on 6th Street are more directly related to friction of on-street parking on these narrower (6 m. pavement cap) unfinished streets.

3.2 Recommended Approach

Based on the above conclusions, this report recommends the following approach to address the traffic issues in the Lakeview area:

- *LIP for speed humps on Lakefield Drive*

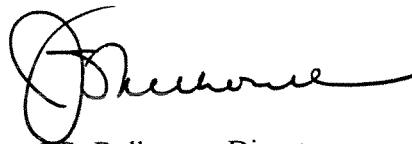
In response to the resident's delegation, the Committee indicated it would consider a LIP for Lakefield upon receiving the results of the monitoring program. These results have shown that not only has Lakefield north of Reigate been negatively affected by the installation of speed humps on 4th Street but also that, with the installation of speed humps, that Lakefield residents could receive similar benefits in terms of reduced traffic volumes and reduced vehicle speeds. Therefore, there is justification for the City offering Lakefield residents the opportunity to approve a LIP for speed humps.

- **Monitor traffic conditions on 6th Street/Reigate after the installation of speed humps on Lakefield Drive**

While it is recognized that speed humps on Lakefield Drive may divert some vehicles to 6th Street and to Reigate Street, the extent of this diversion is difficult to predict and may be partly or wholly balanced by a general reduction in vehicle volumes in the corridor due to the additional speed humps. Monitoring of traffic volumes and speeds would provide necessary information to determine if further action is required in the future.

4.0 CONCLUSION

In response to residents on Lakefield Drive, north of Reigate, who requested that the Committee also approve installation of traffic calming measures on their street, the Committee decided to postpone consideration of this matter pending the results of traffic volume and speed monitoring which would be undertaken in 2000 and in 2001 after the installation of the speed humps on 4th Street and Lakefield, south of Reigate. These results have shown that residents on Lakefield/4th Street, south of Reigate have benefitted in terms of reduced traffic volumes and speeds but that traffic volumes and speeds have increased on Lakefield Drive north of Reigate. As the residents of Lakefield Drive, north of Reigate have responded positively in a questionnaire survey and have appeared before the Committee indicating their support for a speed hump LIP initiative, it is recommended that the residents of Lakefield Drive be offered the opportunity to participate in the speed hump program.



J.S. Belhouse, Director
PLANNING AND BUILDING

RG/sla/mw

cc: City Manager
Director Engineering
City Clerk

R:\Long Range Clerical\DOCS\BOB\Committee Reports\Lakeview Monitoring 2001.wpd

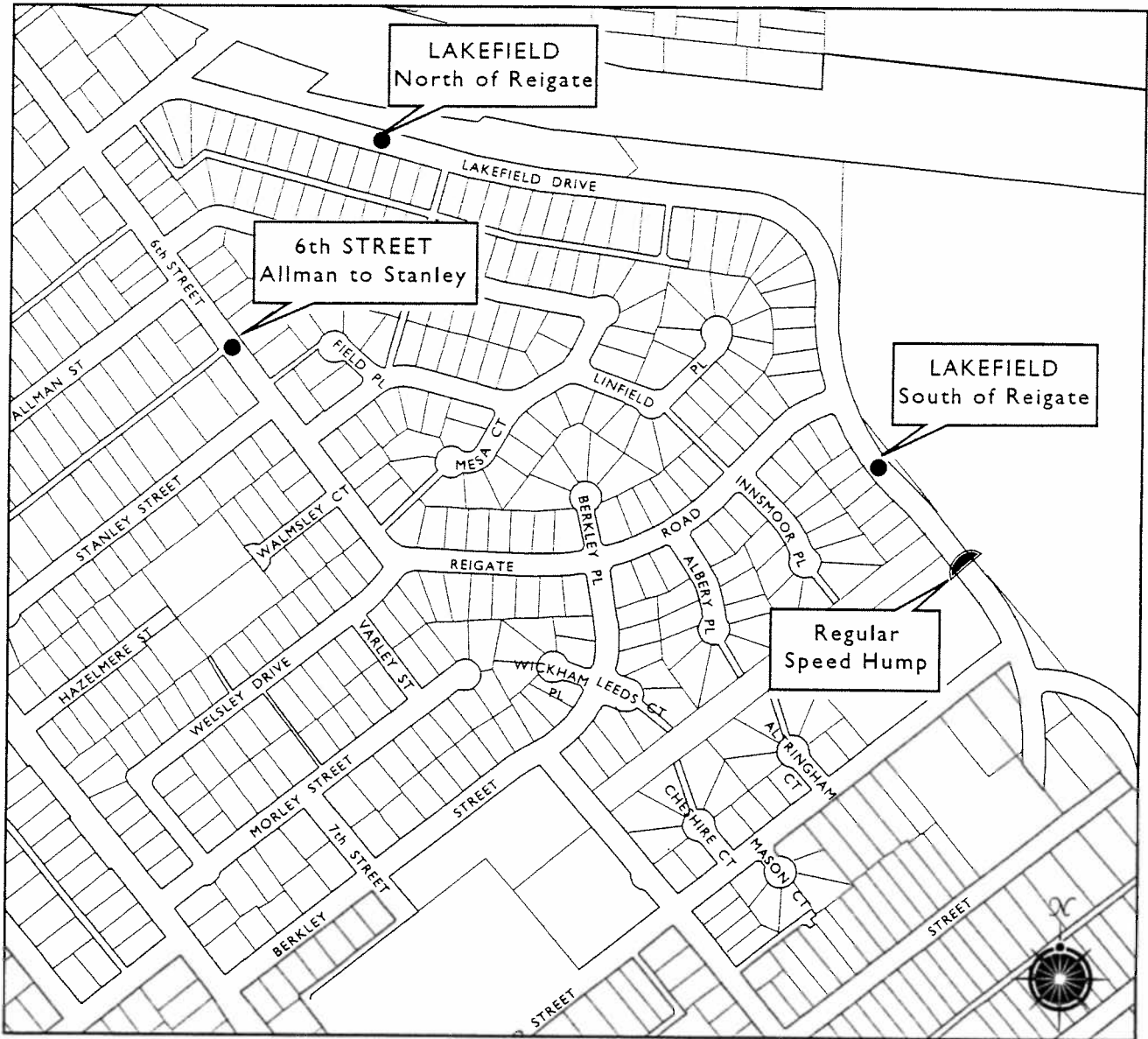


Figure 1

Vehicle Monitoring Stations



PLANNING & BUILDING DEPT.

2002 02 06
RCN

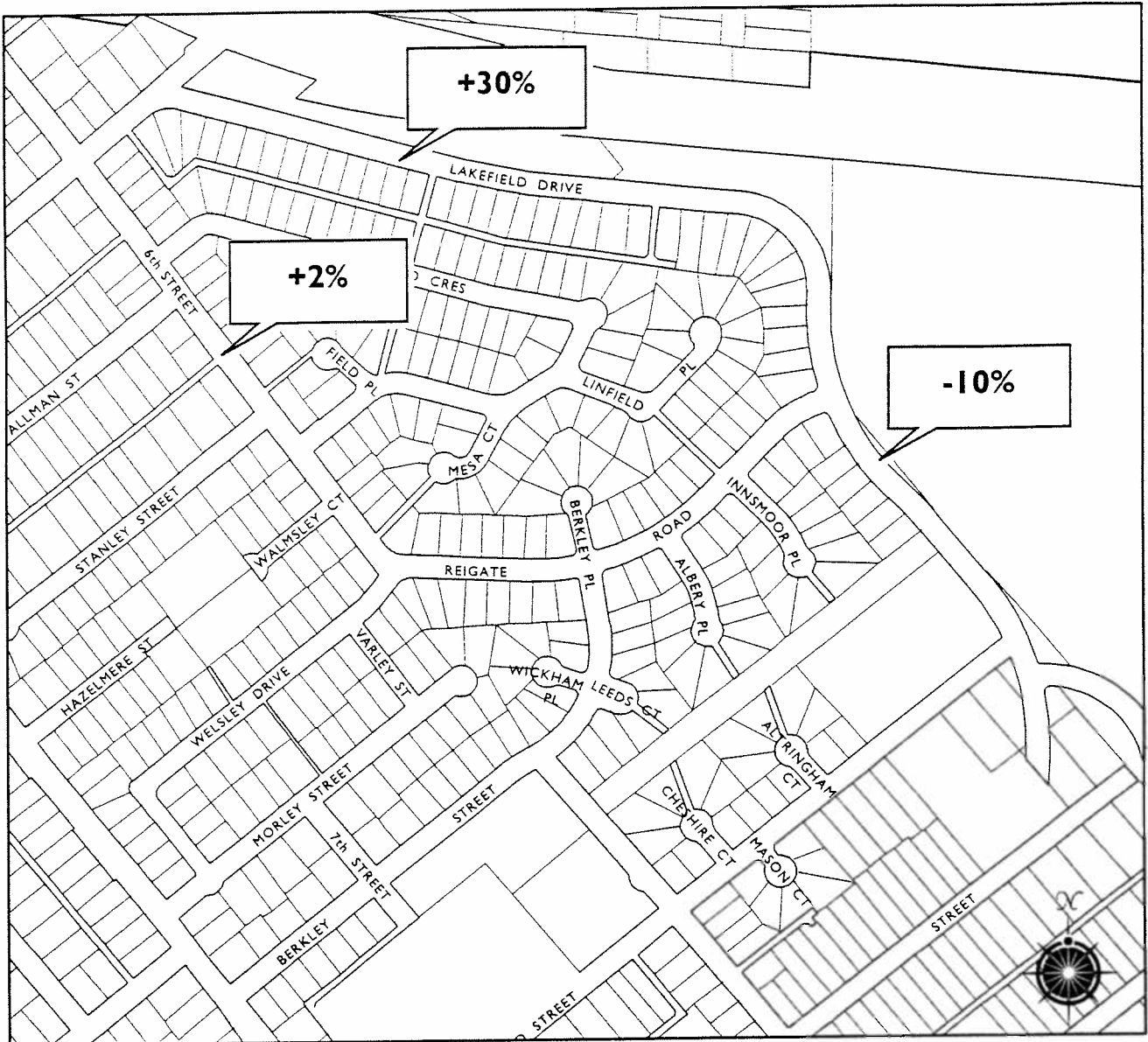


Figure 2

**Change in Traffic Volumes (24 hour)
2000, 2001**

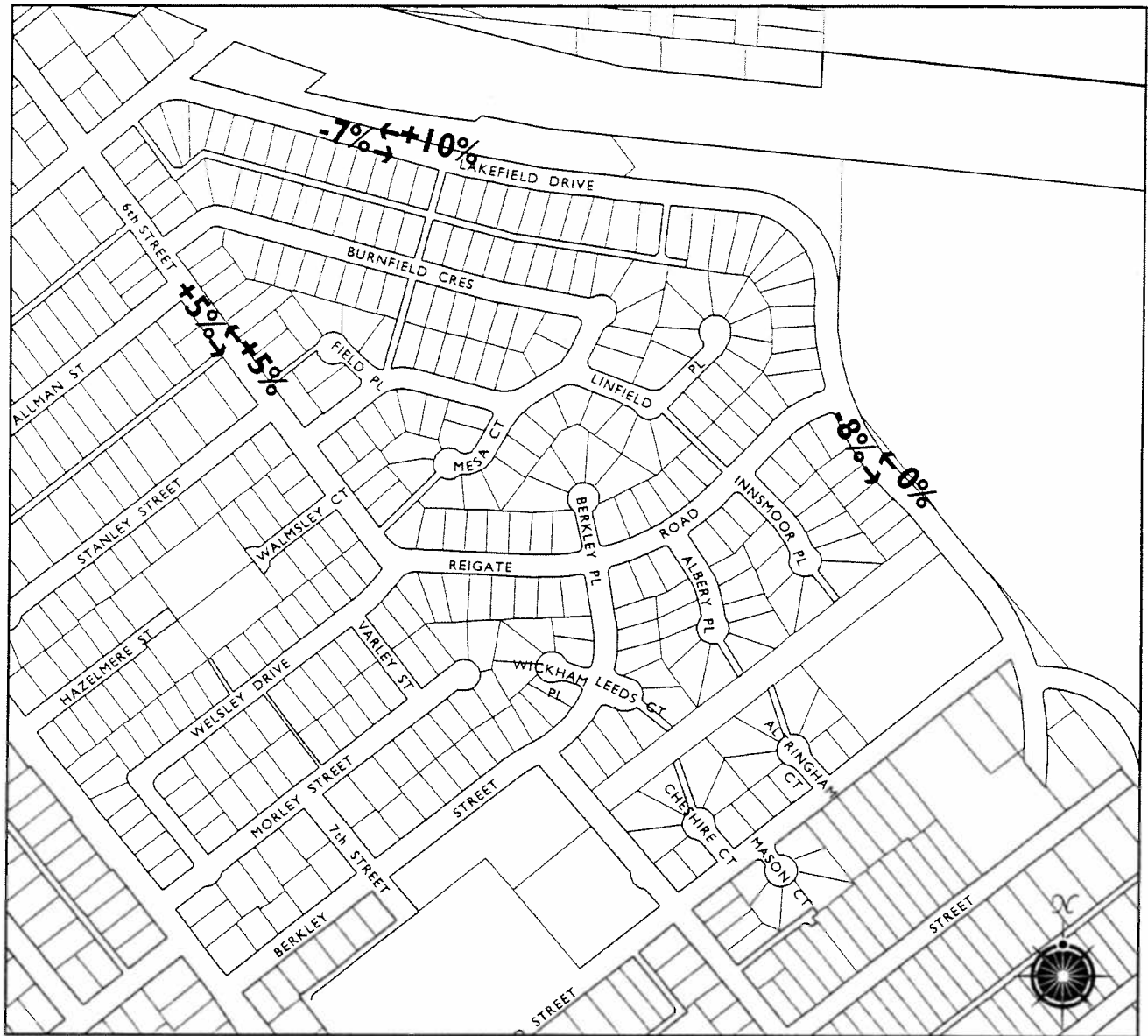


Figure 3
**Change in Average Vehicle Speeds (kph)
 2000, 2001**

