

**TRAFFIC IMPACT  
STUDY OF PROPOSED  
DEVELOPMENT ALONG  
PARADISE DRIVE BETWEEN  
THE USH 45 BYPASS  
AND S. MAIN STREET**

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WASHINGTON COUNTY  
WISCONSIN**

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Special acknowledgement is due Mr. Robert E. Beglinger, SEWRPC  
Principal Engineer, for his contribution to the preparation of this  
report.

**MEMORANDUM REPORT NUMBER 25**

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**CITY OF WEST BEND  
WASHINGTON COUNTY, WISCONSIN**

**Prepared by the**

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TRAFFIC IMPACT STUDY OF PROPOSED DEVELOPMENT  
ALONG PARADISE DRIVE BETWEEN THE USH 45  
BYPASS AND S. MAIN STREET IN THE CITY OF WEST BEND

INTRODUCTION

In October of 1986, the City of West Bend requested that the Southeastern Wisconsin Regional Planning Commission conduct a study of the traffic impacts of, and access which should be provided to, planned urban development along Paradise Drive between the USH 45 bypass and S. Main Street, including the proposed expansion of Paradise Mall at the northwest corner of the intersection of Paradise Drive and S. Main Street. Three alternative extensions of a collector street--Silverbrook Drive--which would, in part, provide such access, had been proposed by City officials and were to be considered in the study. The study was to recommend which, if any, of these collector street extensions should be implemented, and the location and type of access which should be provided to the lands abutting Paradise Drive from the north and, as well, from the south.

The study was also to recommend the improvements which would be necessary to Paradise Drive and at the intersections of Paradise Drive with S. Main Street, and with the proposed 7th Avenue extended and, as well, with any proposed new access to Paradise Drive under a number of possible future conditions, including upon the extension of 7th Avenue to Paradise Drive; upon the completion of the Paradise Mall expansion; upon the development of the lands adjacent to Paradise Drive between the USH 45 bypass and S. Main Street; and by the year 2000, including planned growth in the City of West Bend and environs, including the development of lands adjacent to Paradise Drive.

The study was requested by the City of West Bend to protect the capacity of Paradise Drive to safely and efficiently move traffic. This important arterial street connects to a major interchange on the USH 45 bypass--proposed to be developed as a freeway to USH 41--and thereby serves as a principal entrance to the City of West Bend.

Currently, the access provided to Paradise Drive between the USH 45 bypass and S. Main Street is limited, as abutting lands are still largely undeveloped. From the north, only three driveways provide access, two to individual residences and one serving three residences. From the south, there are also only three driveways, one serving a residence and the other two driveways serving the West Bend Concrete Products Company. These driveways carry very low volumes of traffic and create only minor conflicts with vehicular traffic on Paradise Drive.

This report is divided into three sections. The first section describes the study area and the existing and planned land uses along Paradise Drive between S. Main Street and the USH 45 bypass in the study area. The second section describes the recommended access to future land uses along this stretch of Paradise Drive. The third section presents existing and probable future traffic volumes on Paradise Drive between S. Main Street and the USH 45 bypass based on the planned land use pattern and the recommended access and local street system; identifies probable future roadway deficiencies; and identifies needed roadway improvements.

#### EXISTING AND PLANNED LAND USE IN STUDY AREA

Map 1 displays the study area and the planned land uses in the study area along Paradise Drive between the USH 45 bypass and S. Main Street. Also shown is the existing and committed street system, including the committed extension of 7th Avenue to Paradise Drive.

#### RECOMMENDED ACCESS TO PARADISE DRIVE IN STUDY AREA

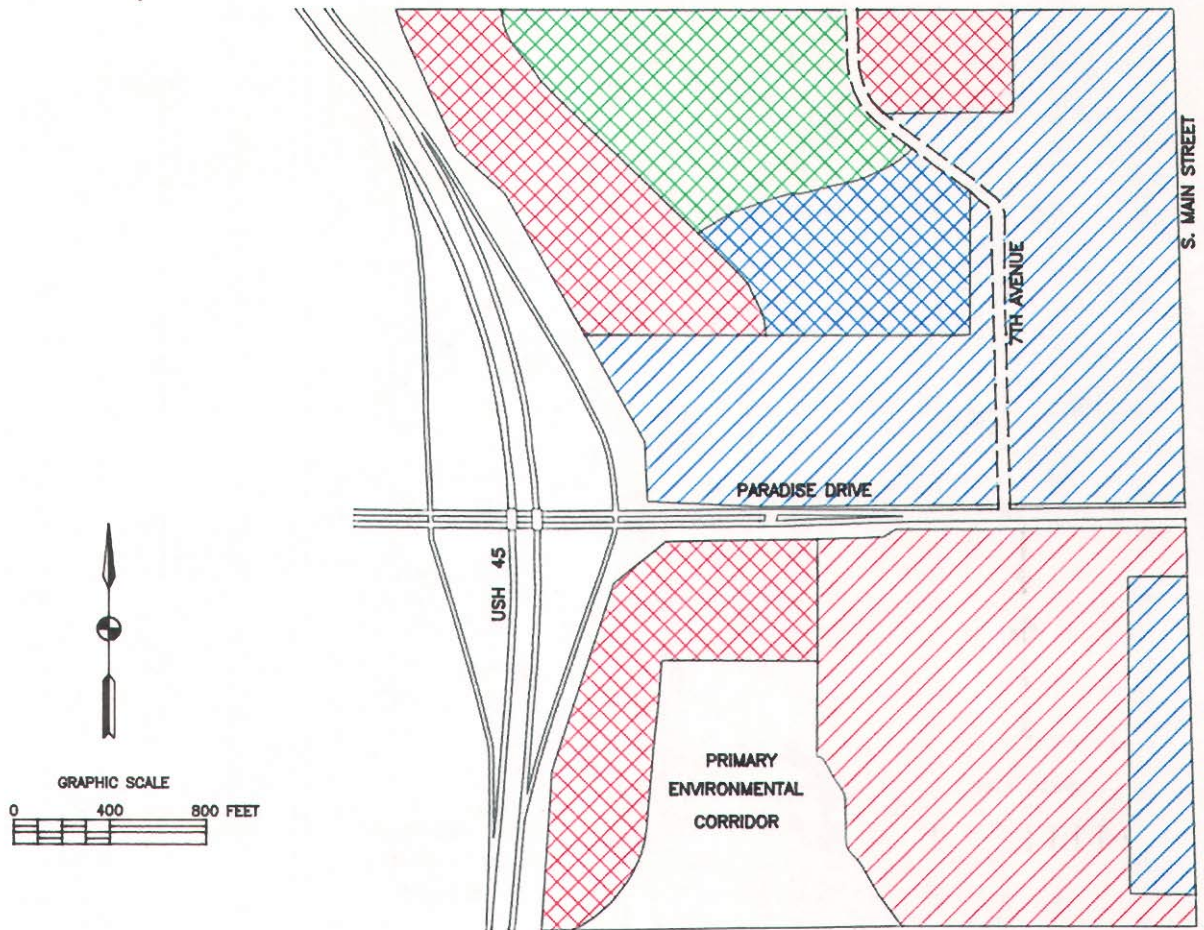
A principal purpose of this study was to determine how access can best be provided to Paradise Drive from abutting lands to the north, and to consider the potential extension of the existing collector street system to provide access to those lands and to Paradise Drive. Recommendations were also to be made to address the access to be provided to lands abutting Paradise Drive from the south to ensure that such access would be coordinated with the recommended access to Paradise Drive from lands to the north.

Three alternative extensions of Silverbrook Drive, as shown on Map 2, have been considered by City officials to provide such access. Two involve extending Silverbrook Drive to Paradise Drive. This study indicates that the third alternative, which would extend Silverbrook Drive to 7th Avenue, is the best of the three alternatives considered and should be the alternative implemented.

Map 3 shows the recommended extension of Silverbrook Drive and the recommended provision of access from Paradise Drive to planned land use development located north and south of Paradise Drive. The two alternatives which proposed the extension of Silverbrook Drive to Paradise Drive are not recommended principally because Silverbrook Drive--which is intended to be a collector street--would then provide a continuous route between Paradise Drive and STH 33, and would function in an unintended manner as an arterial street. Also, these two alternatives are not recommended because they would result in an undesirable spacing of intersections along Paradise Drive between the USH 45 bypass and Main Street. The two alternatives would result in a spacing of about 550 feet between Silverbrook Drive extended and USH 45, and about 1,000 feet between Silverbrook Drive extended and 7th Avenue. This spacing is significantly less than the recommended 1,300-foot minimum spacing of intersections along an arterial street. Any other extension of Silverbrook Drive to Paradise Drive between 7th Avenue and the USH 45 bypass should be rejected for the same reasons cited above, namely, that such extension would result in the creation of a continuous direct route which could improperly function as an arterial street; and it would result in a substandard spacing of intersec-



PLANNED YEAR 2000 LAND USES IN STUDY AREA

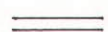



LEGEND

LAND USE

-  Commercial/Retail
-  Industrial
-  Residential
-  Low Density
-  Medium Density
-  High Density

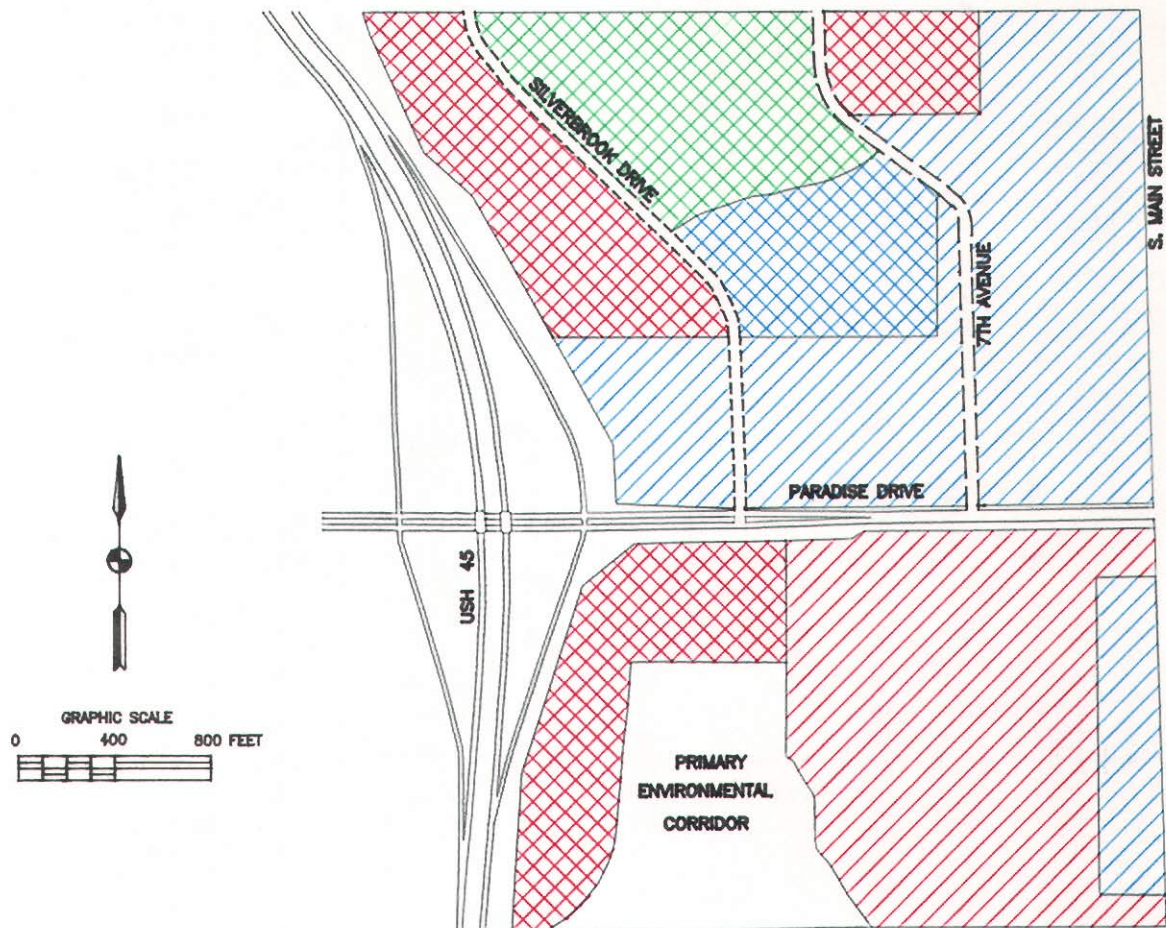
STREETS

-  Existing Arterial and Local Streets
-  Committed Collector Street Extension









Map 2

ALTERNATIVE EXTENSIONS OF SILVERBROOK  
DRIVE PROPOSED BY CITY OF WEST BEND

(Alternative 1)



LEGEND

LAND USE		STREETS	
	Commercial/Retail		Existing Arterial and Local Streets
	Industrial		Committed Collector Street Extension
	Residential		Proposed Collector Street Extension
	Low Density		
	Medium Density		
	High Density		

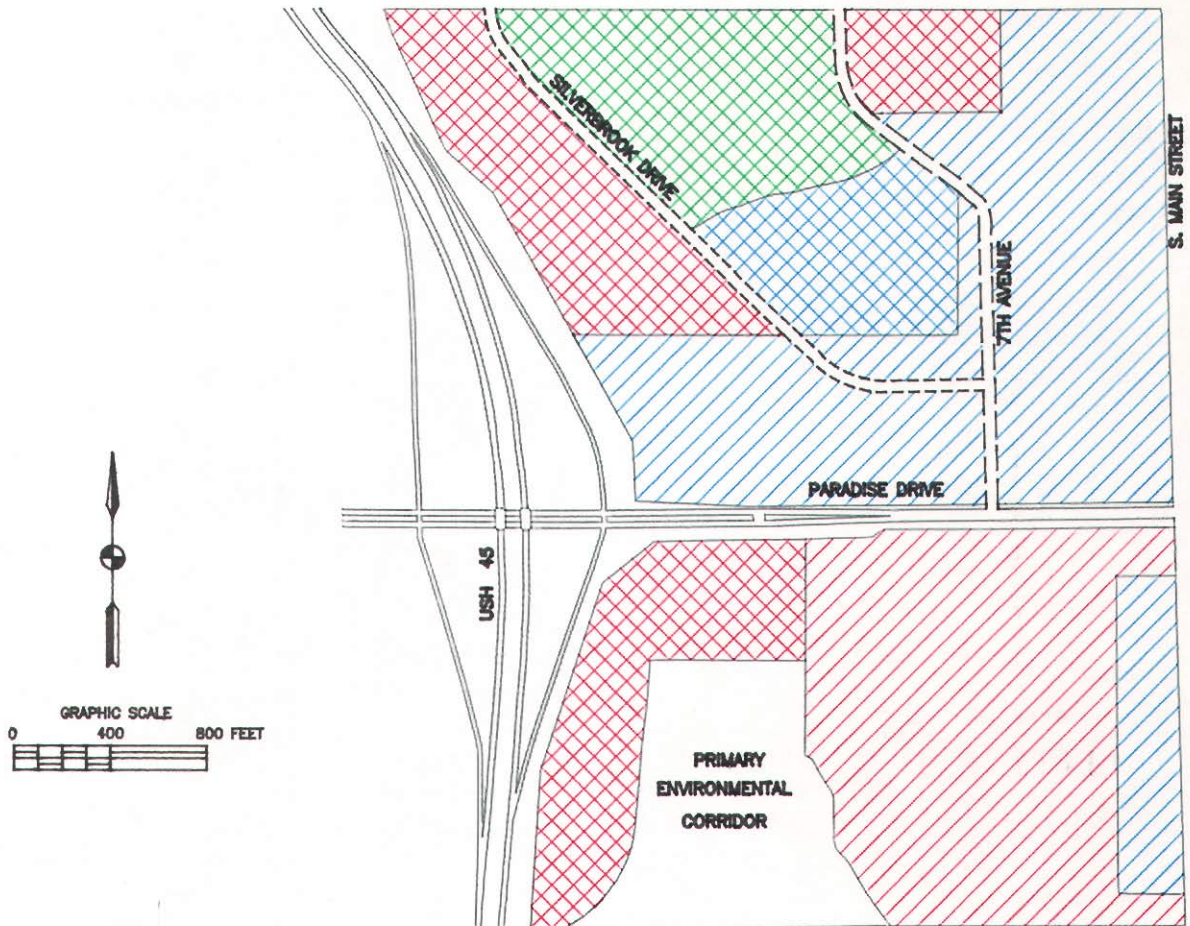




Map 2 Continued






ALTERNATIVE EXTENSIONS OF SILVERBROOK  
DRIVE PROPOSED BY CITY OF WEST BEND

(Alternative 3)






LEGEND

LAND USE

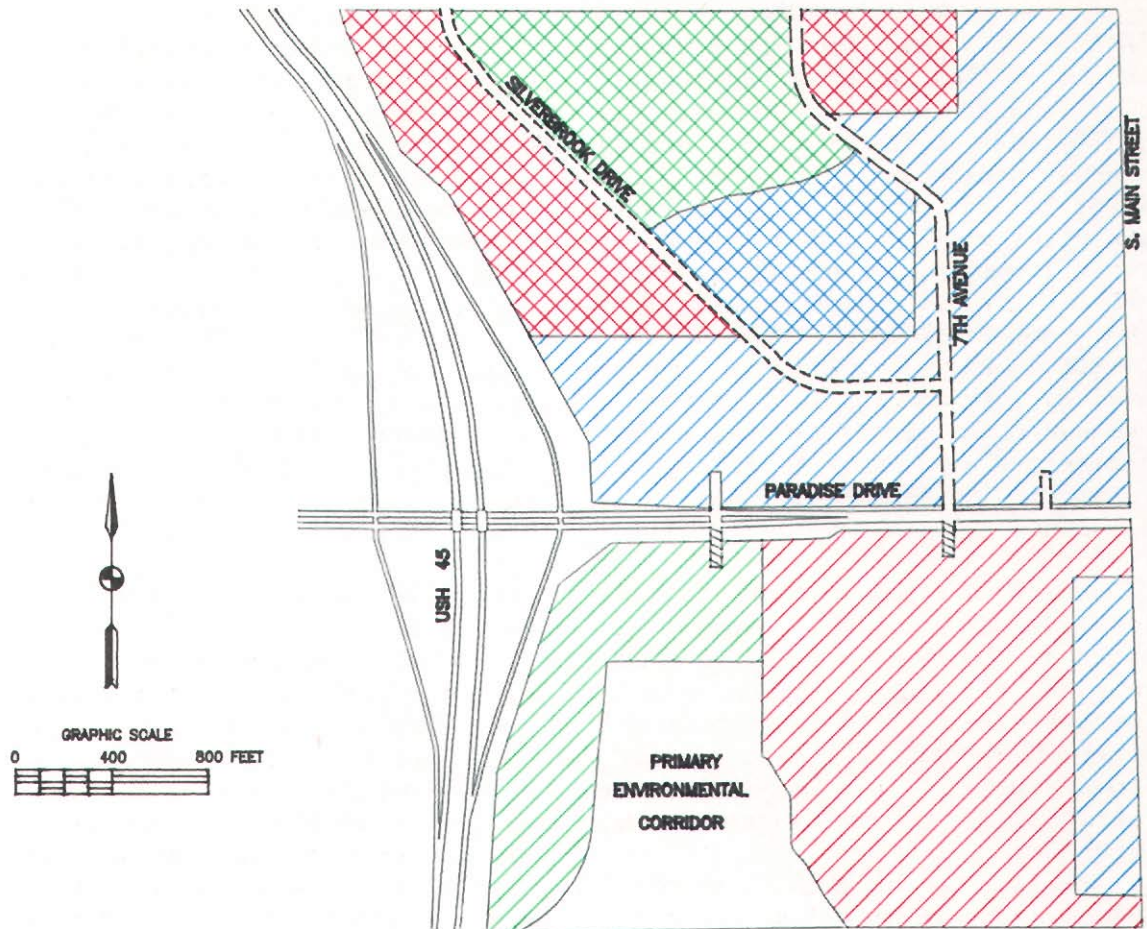
-  Commercial/Retail
-  Industrial
-  Residential
-  Low Density
-  Medium Density
-  High Density

STREETS

-  Existing Arterial and Local Streets
-  Committed Collector Street Extension
-  Proposed Collector Street Extension



RECOMMENDED ACCESS TO PARADISE DRIVE AND EXTENSION  
OF SILVERBROOK DRIVE IN THE STUDY AREA



LEGEND

LAND USE

- Commercial/Office
- Commercial/Retail
- Industrial
- Residential
- Low Density
- Medium Density
- High Density

STREETS

- Existing Arterial and Local Streets
- Committed Collector Street Extension
- Proposed Collector Street Extension
- Committed Driveway on Paradise Drive
- Recommended Driveway on Paradise Drive
- Recommended Access Point on Paradise Drive For Future Collector/Land Access Street

tions along Paradise Drive, which could have a detrimental impact on the traffic safety and carrying capacity of this stretch of Paradise Drive.

The extension of Silverbrook Drive to 7th Avenue, as recommended, would provide traffic relief for 7th Avenue; that is, development adjacent to Silverbrook Drive may be expected to use Silverbrook Drive for north-south travel rather than 7th Avenue. The alternative extension of Silverbrook Drive, which would provide a direct connection to Paradise Drive and which was not recommended by Commission staff, would not be expected to provide any substantially greater traffic relief for 7th Avenue. The recommended extension of Silverbrook Drive would, in fact, provide a more convenient route for traffic to the planned commercial areas along Paradise Drive. In addition, with respect to traffic to and from the Paradise Drive interchange with the new USH 45 bypass, Silverbrook Drive would provide the likely route for such traffic from areas adjacent to Silverbrook Drive, whether Silverbrook Drive is extended as recommended to 7th Avenue, or extended directly to Paradise Drive. Silverbrook Drive would not provide either with its recommended extension to 7th Avenue or the rejected extension to Paradise Drive a more convenient alternative route for traffic between the freeway bypass interchange and those areas adjacent to 7th Avenue.

The recommended alternative collector street extension is shown on Map 3. Under this alternative, Silverbrook Drive would be extended to the east to connect to 7th Avenue. The properties north of Paradise Drive between 7th Avenue and the USH 45 bypass which are presently proposed to be developed for commercial uses would be served by a single driveway which would be located approximately 550 feet east of the USH 45 bypass and 1,000 feet west of 7th Avenue extended. The driveway is recommended to provide the sole access from Paradise Drive to the proposed commercial land uses north of Paradise Drive between 7th Avenue and the USH 45 bypass. Access to these commercial land uses should also be provided from Silverbrook Drive extended and 7th Avenue extended. The circulation pattern within the planned commercial development, however, will need to be carefully designed to ensure that it will not provide a potential "shortcut" between 7th Avenue and the USH 45 bypass and carry through traffic, and to ensure that access will be provided to all of the proposed commercial land uses from the single driveway on Paradise Drive.

The access proposed to be provided to Paradise Drive from lands to the south of Paradise Drive between the USH 45 bypass and Main Street are also shown on Map 3. It is proposed that such access be limited to two locations, one which would be immediately opposite 7th Avenue and provide an extension of 7th Avenue south of Paradise Drive, and the other which would be opposite the proposed driveway to the planned commercial land uses located north of Paradise Drive between USH 45 and 7th Avenue. It should be noted that Map 3 also indicates a recommended change in the proposed land use pattern for that portion of the lands south of Paradise Drive and immediately east of USH 45. These lands are presently proposed for residential use. It is recommended that these lands instead be developed for office use. Residential use of the area concerned would be incompatible with the proposed industrial use of the area immediately to the east and, as well, with the freeway to the west. Office development would be compatible with both the proposed industrial and freeway uses. Also, it would be undesirable for access to the land uses from Paradise Drive to be provided through an industrial area.

The remaining sections of this report identify the expected total and afternoon peak hour (4:30 to 5:30 p.m.) average weekday traffic volumes on Paradise Drive and at its intersections, upon the extension of 7th Avenue to Paradise Drive in 1987; upon the proposed expansion of Paradise Mall along Paradise Drive between 7th Avenue and Main Street in 1987; upon the development of lands adjacent to Paradise Drive; and, by the year 2000, reflecting anticipated development in the City of West Bend and environs, including development of the lands along Paradise Drive. Also described in the remaining sections of this report are the traffic problems which may be anticipated under each of these four sets of future conditions and the roadway improvements required to alleviate those anticipated problems.

#### EXISTING AND FORECAST FUTURE AVERAGE WEEKDAY TRAFFIC VOLUMES AND PROBLEMS AND RECOMMENDED ROADWAY IMPROVEMENTS

Existing 1986 average weekday traffic volumes based on counts taken by the Wisconsin Department of Transportation in October 1986 along Paradise Drive and at the four legs of the intersection of Paradise Drive and S. Main Street are shown on Figure 1. Such volumes for the afternoon peak hour (4:30 to 5:30 p.m.) of the average weekday are shown on Figure 2. Based upon these traffic volumes and the existing physical and operational characteristics of Paradise Drive and Main Street, Commission staff analyses indicate that Paradise Drive and its intersection with Main Street did in 1986 operate well within design capacity, and no improvements are necessary.

##### Traffic Volumes and Roadway Needs Upon Extension of 7th Avenue

The extension of 7th Avenue to Paradise Drive is anticipated to be completed in 1987. The pavement on 7th Avenue would be 48 feet in width from curb to curb, and would generally provide two traffic lanes and two parking lanes. At its intersection with Paradise Drive, the southbound approach of 7th Avenue should be marked to provide both exclusive left-turn and right-turn lanes.

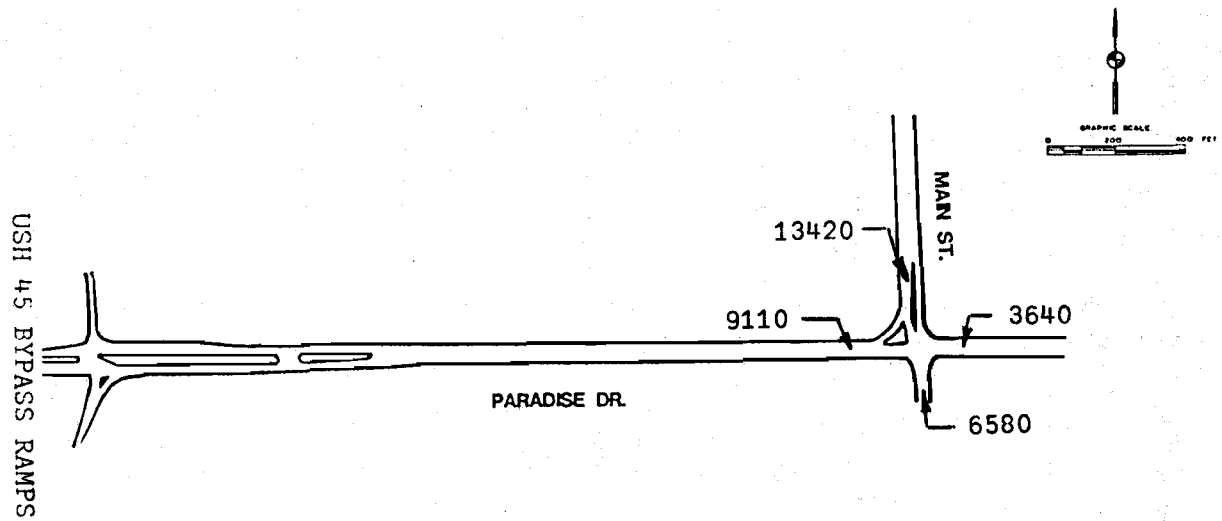
Based upon analyses of the existing 1986 volumes, the estimated average weekday traffic volumes which may be expected to utilize the extension of 7th Avenue, Main Street, and Paradise Drive are shown on Figure 3; and for the afternoon peak hour of an average weekday on Figure 4. An estimated 3,000 vehicles per average weekday would be expected to use 7th Avenue rather than Main Street. The analyses indicate that Paradise Drive and its intersections with 7th Avenue and Main Street should operate within design capacity, and no improvements should be necessary. However, traffic volumes through the intersection of Paradise Drive and 7th Avenue will approach levels warranting the installation of traffic signals.

##### Traffic Volumes and Roadway Needs Upon Paradise Mall Expansion

The expansion of Paradise Mall located between Main Street and an extended 7th Avenue along Paradise Drive is also anticipated to be completed in 1987. The site plan for the expansion of the shopping center proposes a net increase in gross leasable area of about 260,000 square feet--from about 119,000 to about 379,000 square feet. This expansion may be expected to result in approximately 7,700 additional vehicle trips on an average weekday. Assuming the completion of the mall expansion, and full leasing of the space in 1987, average daily traffic volumes on 7th Avenue, Main Street, and Paradise Drive may be expected to reach the levels shown in Figure 5. Afternoon peak hour

Figure 1

PARADISE DRIVE: EXISTING 1986  
TOTAL AVERAGE WEEKDAY TRAFFIC COUNTS

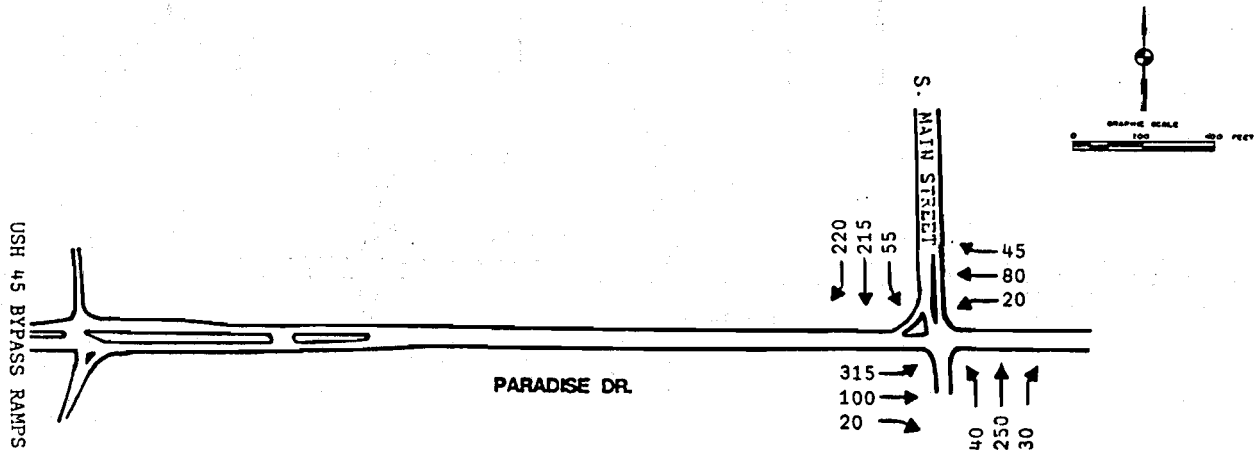


Source: SEWRPC.



Figure 2

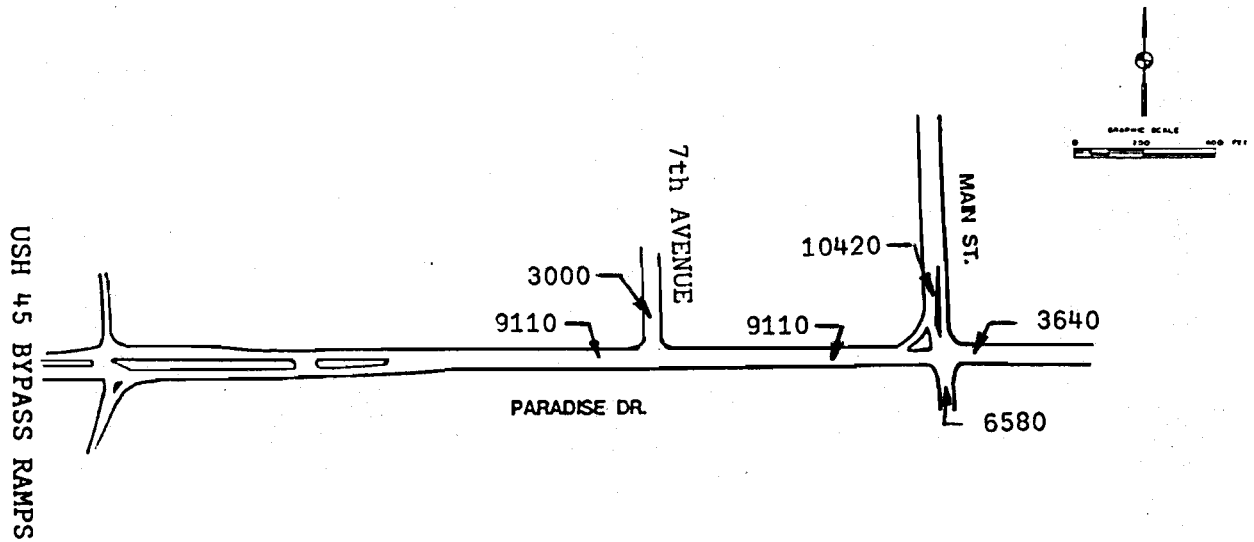
PARADISE DRIVE: EXISTING 1986 AFTERNOON  
PEAK HOUR AVERAGE WEEKDAY TRAFFIC VOLUME



Source: SEWRPC.

Figure 3

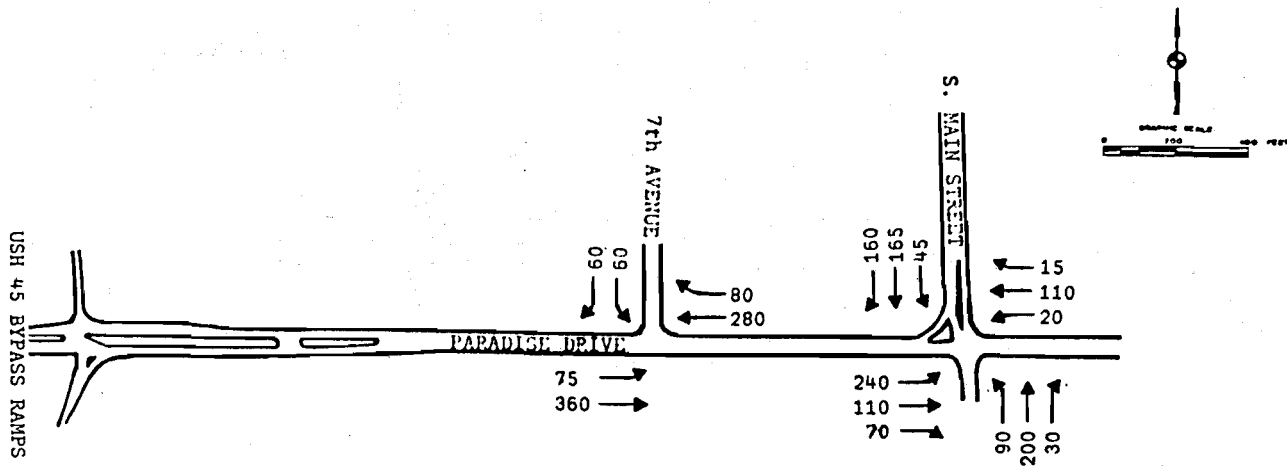
PARADISE DRIVE WITH 7TH AVENUE EXTENDED  
1986 AVERAGE WEEKDAY TRAFFIC VOLUME



Source: SEWRPC.

Figure 4

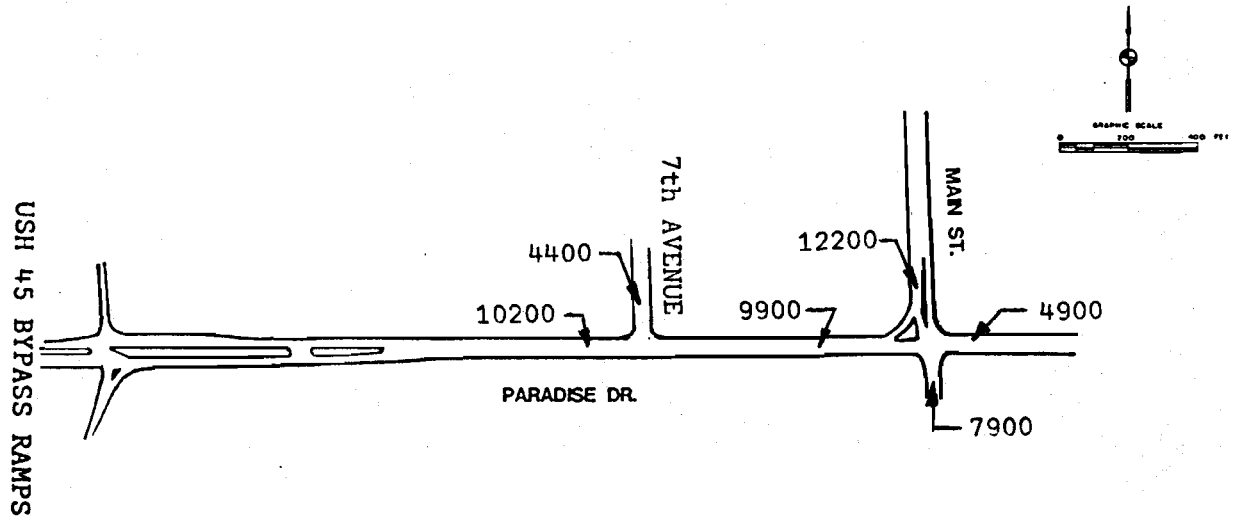
PARADISE DRIVE WITH 7TH AVENUE  
EXTENDED 1986 AFTERNOON PEAK HOUR  
AVERAGE WEEKDAY TRAFFIC VOLUME



Source: SEWRPC.

Figure 5

PARADISE DRIVE WITH 7TH AVENUE  
EXTENDED AND PARADISE MALL EXPANSION:  
1986 AVERAGE WEEKDAY TRAFFIC VOLUME



Source: SEWRPC.

volumes on an average weekday may be expected to reach the levels shown on Figure 6. It may be expected that, with the extension of 7th Avenue and the completion of the Paradise Mall expansion, the intersections of Paradise Drive and 7th Avenue and Paradise Drive and Main Street will begin to carry traffic volumes exceeding the design capacity of these intersections, and will require improvement. As summarized in Table 1, the improvements required at the intersection of Paradise Drive and 7th Avenue will include the installation of traffic-actuated traffic signals. It should be noted that the installation of traffic signals at this intersection has been proposed by the developer of the mall as a part of the mall expansion. It is further recommended that pavement markings be provided at this intersection for an exclusive left-turn lane on the eastbound approach of Paradise Drive.

At the intersection of Paradise Drive and S. Main Street, it is recommended that an exclusive left-turn lane be constructed on the northbound approach of Main Street to the intersection. This will require construction of a traffic island at the intersection, as shown in Figure 7.

#### Traffic Volumes and Roadway Needs Upon Development of Lands Abutting Paradise Drive

An estimate was prepared of the average weekday traffic and afternoon peak hour average weekday traffic which could be expected to use 7th Avenue, Main Street, and Paradise Drive upon full development of all the lands abutting Paradise Drive within the study area, including the planned development of the West Bend Mutual Life Insurance Company office complex on Paradise Drive west of the USH 45 bypass. The resulting land use pattern, as shown on Map 4, may be expected to generate a total of 24,000 vehicle trips per average weekday, an increase of approximately 22,000 vehicle trips per average weekday over the trips generated in the area upon completion of the expansion of the Paradise Mall. The increased average weekday traffic volumes are shown on Figure 8; the increased afternoon peak hour volumes of the average weekday are shown on Figure 9.

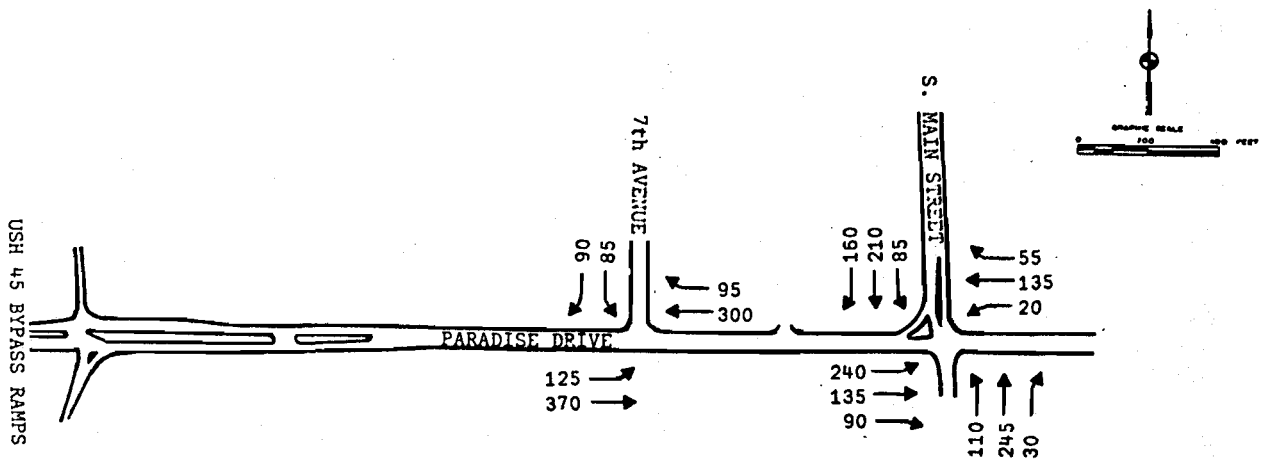
As shown in Table 1, the full development of the lands adjacent to Paradise Drive will require, in addition to the roadway improvements necessary upon the expansion of the Paradise Mall, reconstruction of the existing island located in the southbound Main Street approach of the intersection of Paradise Drive and Main Street to provide an exclusive left-turn lane, as shown in Figure 10.

At the intersection of Paradise Drive and 7th Avenue, an exclusive left-turn lane on the eastbound approach to the intersection will be required. This will necessitate the construction of a traffic island, as shown in Figure 11. The extension of 7th Avenue to the south of Paradise Drive to accommodate development of lands to the south should be constructed to provide a separate left-turn lane on the northbound approach to Paradise Drive, and a combined through and right-turn lane, as also shown on Figure 11. Also, upon the extension of 7th Avenue south of Paradise Drive, the southbound approach of the intersection of 7th Avenue and Paradise Drive should be converted to provide an exclusive left-turn lane and a combined through and right-turn lane, also as shown on Figure 11.

Upon the development of the abutting lands, the intersection of Paradise Drive with the driveway to commercial lands to the north and the local street pro-

Figure 6

PARADISE DRIVE WITH 7TH AVENUE EXTENDED  
AND PARADISE MALL EXPANSION: 1986 AFTERNOON  
PEAK HOUR AVERAGE WEEKDAY TRAFFIC VOLUME



TR78/c

Table 1  
RECOMMENDED ROADWAY IMPROVEMENTS

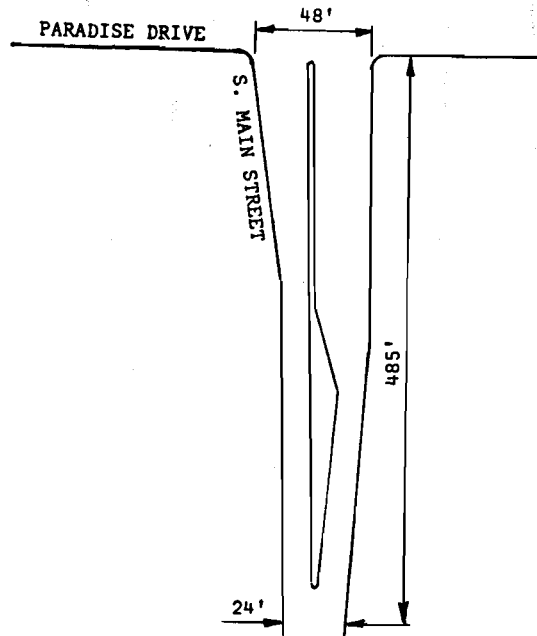
	Incremental Improvements Necessary Under Existing and Forecast Traffic Volumes				
	Existing Conditions: 1987	Extension of 7th Avenue: 1987	Development of Paradise Mall Expansion: 1987	Lands Adjacent to Paradise Drive	Year 2000 Traffic Forecast
Roadway Improvements Paradise Drive between USH 45 and S. Main Street	--	--	--	--	o Reconstruction of existing 4-lane undi- vided cross-section to a four-lane divided cross-section with a 24-foot median.
Intersection Improvements Paradise Drive and S. Main Street	--	--	o Reconstruction of northbound approach to provide exclusive left-turn lane.	o Reconstruction of center island to provide exclusive left-turn lane with storage for five vehicles on south- bound approach.	o Construct an exclusive left-turn lane in the median on the eastbound approach when the road- way is reconstructed from 4-lane undivided cross-section to a 4- lane divided cross- section.
Paradise Drive and 7th Avenue	--	o Pavement marking to provide exclusive left- and right-turn lanes on the south- bound approach.	o Provide traffic actuated signaliza- tion. o Pavement marking to provide exclusive left-turn lane on the eastbound approach	o Change pavement markings to provide exclusive left-turn lane and a combined through and right- turn lane on the southbound approach. o Construct the north- bound approach of the extension of 7th Avenue south of Para- dise Drive to pro- vide an exclusive left-turn lane and a combined through and right-turn lane. o Reconstruction of eastbound approach to provide an exclu- sive left-turn lane.	o Construct an exclusive left-turn lane in the median on the westbound approach when the road- way is reconstructed from a 4-lane undivided cross-section to a 4- lane divided cross- section.
Paradise Drive and Western Access Point	--	--	--	o The north- and southbound approaches of this new intersection should provide an exclusive left-turn lane and a combined through and right- turn lane. o Construct exclusive left-turn lanes in the median on the east and westbound approaches. o Provide traffic- actuated signaliza- tion.	o Construct an exclusive right-turn lane on the eastbound approach.

Source: SEWRPC.

Figure 7

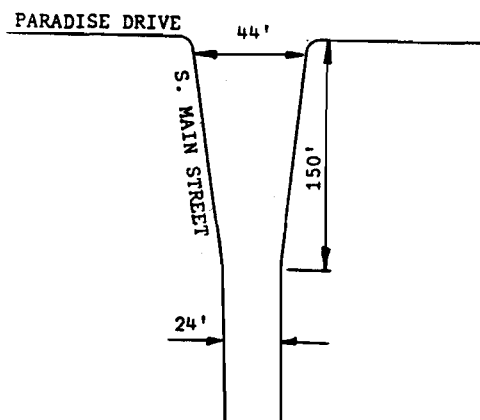
RECOMMENDED EXCLUSIVE LEFT-TURN LANE  
TO BE CONSTRUCTED ON NORTHBOUND APPROACH  
OF S. MAIN STREET AT INTERSECTION  
OF S. MAIN STREET AND PARADISE DRIVE

RECOMMENDED



Not to Scale

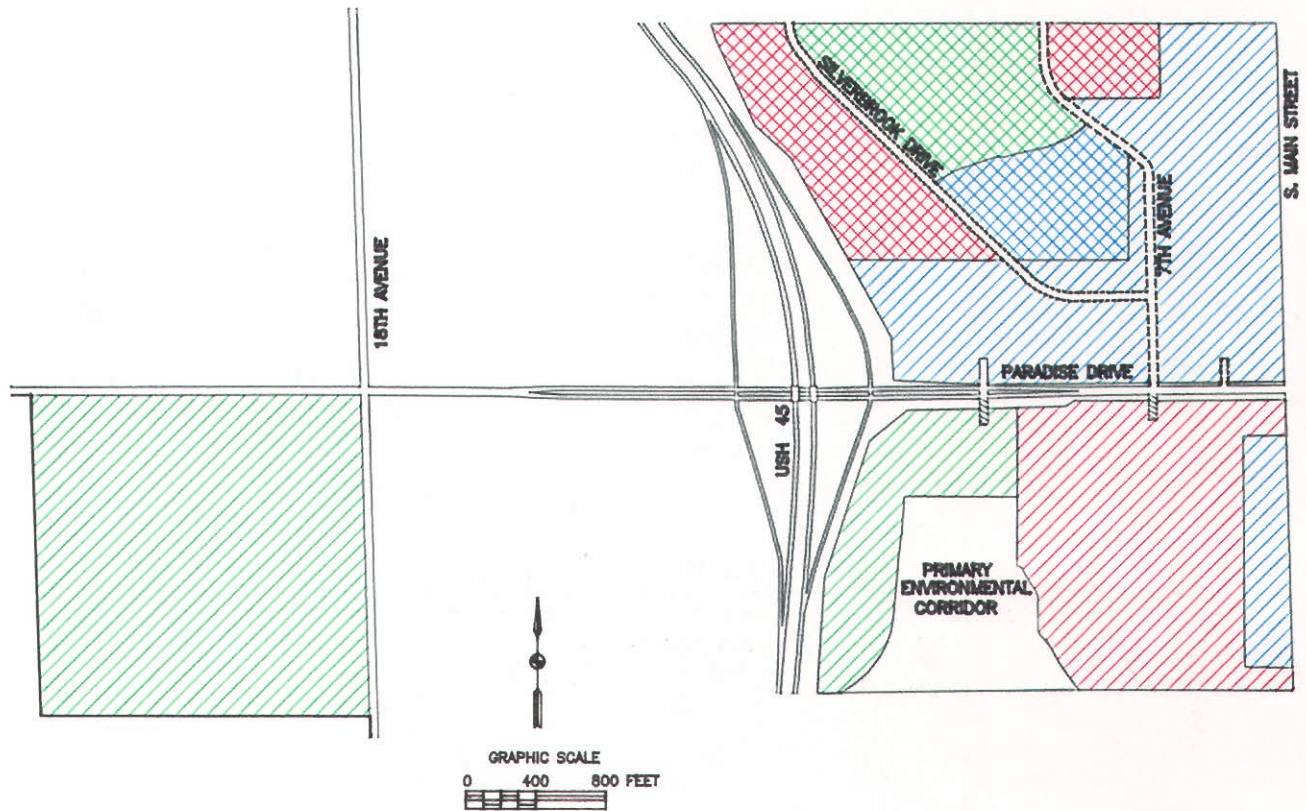
EXISTING



Source: SEWRPC.



ABUTTING LANDS TO PARADISE DRIVE WITHIN AND OUTSIDE STUDY AREA  
ASSUMED TO BE DEVELOPED FOR SPECIAL TRAFFIC FORECAST ON PARADISE DRIVE  
BASED ON DEVELOPMENT OF ABUTTING LANDS



LEGEND

LAND USE

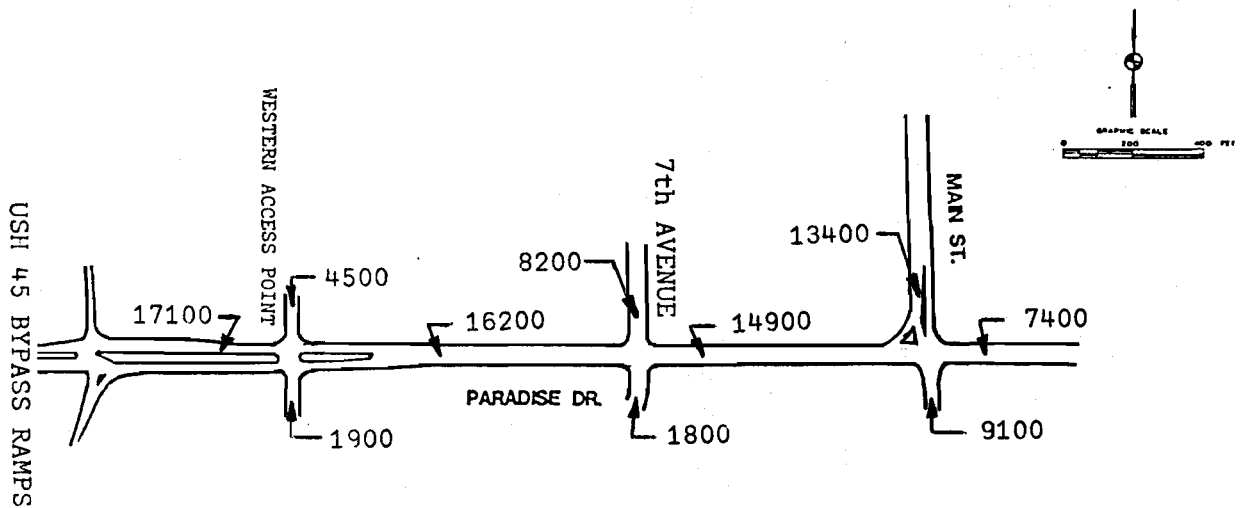
	Commercial/Office
	Commercial/Retail
	Industrial
	Residential
	Low Density
	Medium Density
	High Density

STREETS

	Existing Arterial and Local Streets
	Committed Collector Street Extension
	Proposed Collector Street Extension
	Committed Driveway on Paradise Drive
	Recommended Driveway on Paradise Drive
	Recommended Access Point on Paradise Drive For Future Collector/Land Access Street

Figure 8

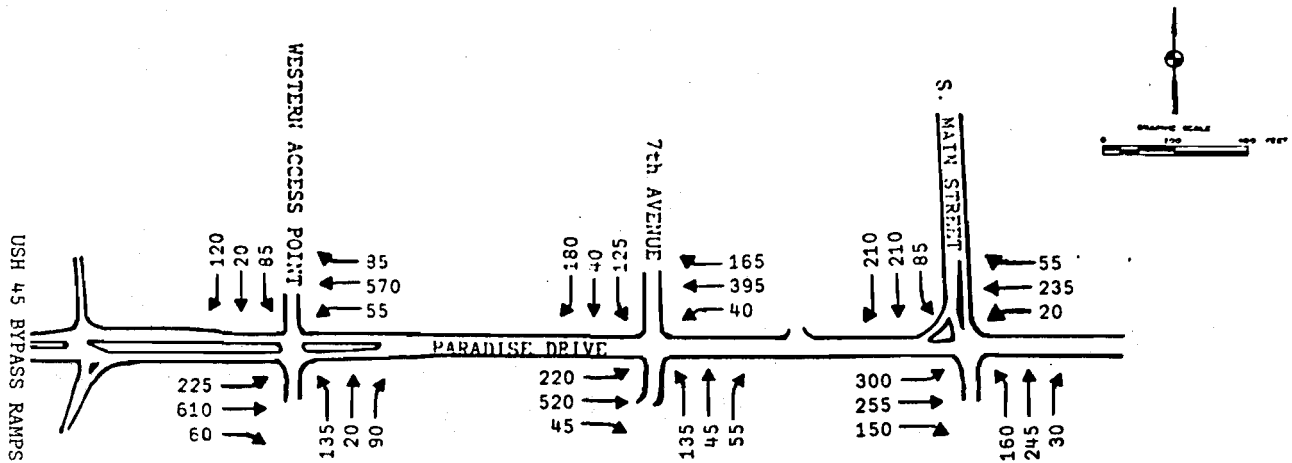
AVERAGE WEEKDAY TRAFFIC VOLUMES EXPECTED UPON  
DEVELOPMENT OF LANDS ADJACENT TO PARADISE DRIVE



Source: SEWRPC.

Figure 9

AFTERNOON PEAK HOUR AVERAGE  
WEEKDAY TRAFFIC VOLUMES EXPECTED UPON  
DEVELOPMENT OF LANDS ADJACENT TO PARADISE DRIVE

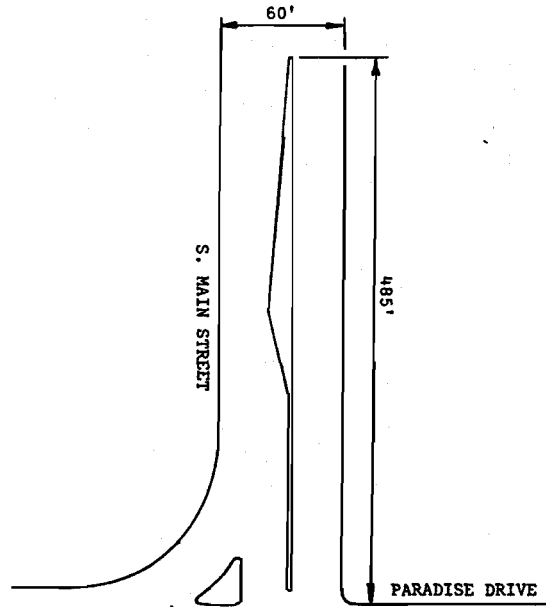


Source: SEWRPC.

Figure 10

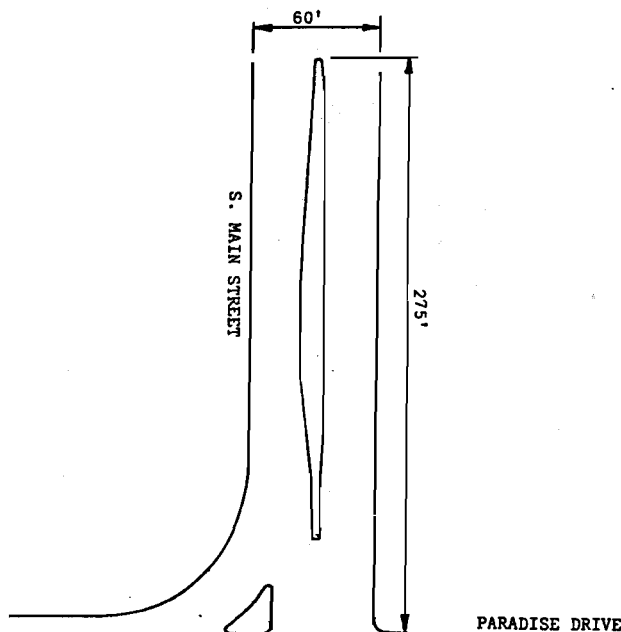
RECOMMENDED RECONSTRUCTION OF EXCLUSIVE LEFT-TURN  
LANE ON SOUTHBOUND APPROACH OF S. MAIN STREET  
AT INTERSECTION OF S. MAIN STREET AND PARADISE DRIVE

RECOMMENDED



Not to Scale

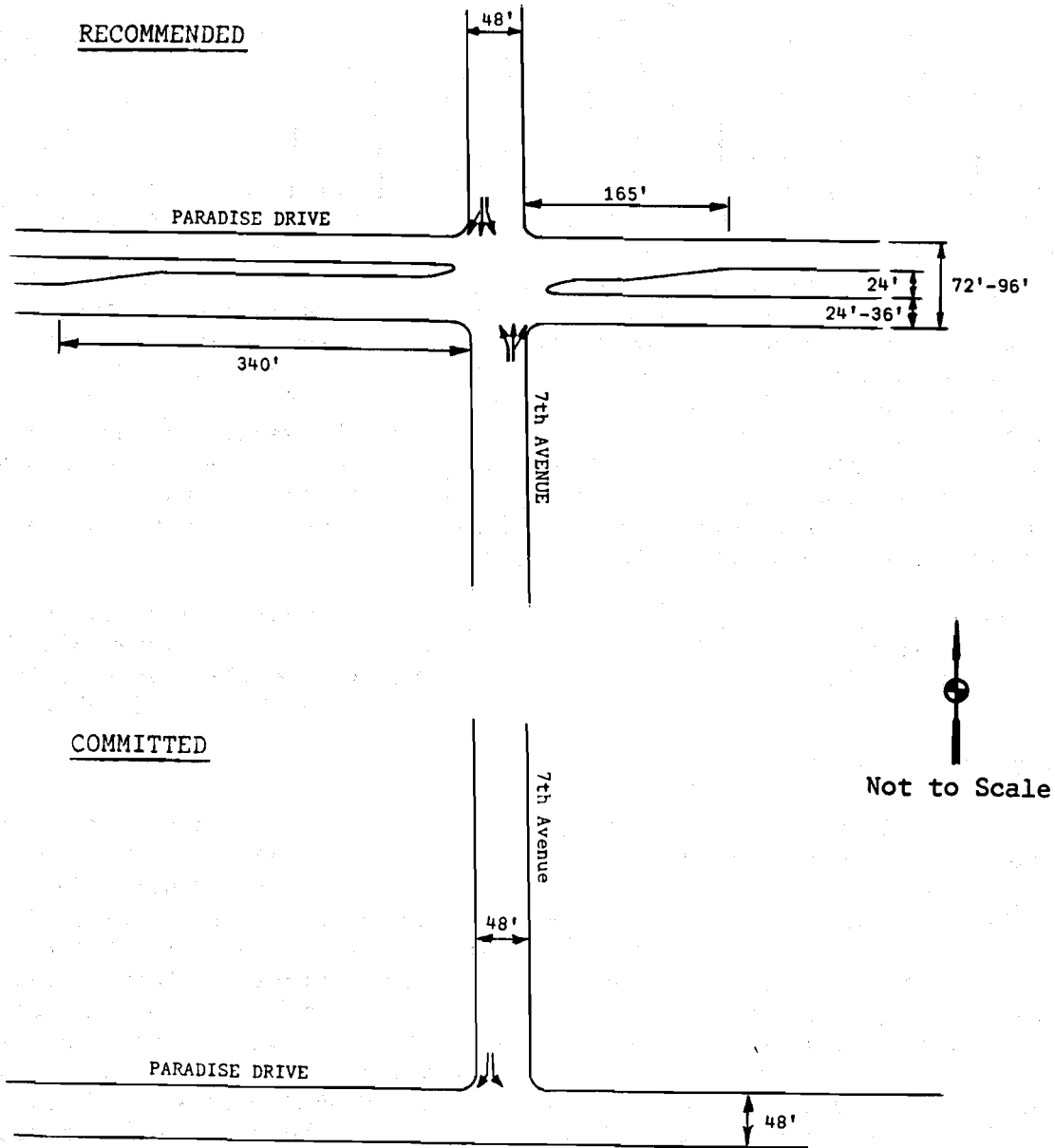
EXISTING



Source: SEWRPC

Figure 11

RECOMMENDED IMPROVEMENTS TO INTERSECTION OF  
7TH AVENUE AND PARADISE DRIVE UPON  
DEVELOPMENT OF LANDS ABUTTING PARADISE DRIVE



Source: SEWRPC.

vided to serve office and industrial uses to the south will require the installation of traffic signals and the provision of exclusive left-turn lanes on both the eastbound and westbound approaches of Paradise Drive; and the construction of two-lane northbound and southbound approaches to the intersection, providing in each case an exclusive left-turn lane with a combined through and right-turn lane, all as shown on Figure 12.

#### Traffic Volumes and Roadway Needs in Year 2000

A traffic forecast for the year 2000 was prepared for the segment of Paradise Drive between Main Street and the USH 45 bypass. This traffic forecast reflected not only the development of lands within the study area, but also planned development in the City of West Bend and environs. The anticipated year 2000 average weekday traffic volumes on 7th Avenue, Main Street, Paradise Drive, and the western access point to Paradise Drive are shown on Figure 13. The afternoon peak hour volumes of the average weekday are shown on Figure 14. As shown in Table 1, these volumes may be expected to require that the divided cross-section of Paradise Drive which currently terminates approximately 1,200 feet east of USH 45 be extended to Main Street, thus converting the four-lane undivided cross-section to a four-lane divided cross-section. As part of this improvement, a number of additional intersection improvements should also be made, including: at the intersection of Paradise Drive and 7th Avenue, the provision of an exclusive left-turn lane in the median on the westbound approach of Paradise Drive; and at the intersection of Paradise Drive with the proposed local street proposed to serve planned office and industrial lands to the south and the driveway to serve commercial lands to the north, an exclusive right-turn lane on the eastbound approach.

The existing right-of-way along this stretch of Paradise Drive is 83 to 160 feet. To provide a desirable four-traffic-lane divided cross-section, a right-of-way of 110 feet will be necessary; and to provide four traffic lanes with two parking lanes, a right-of-way of 130 feet would be desirable.

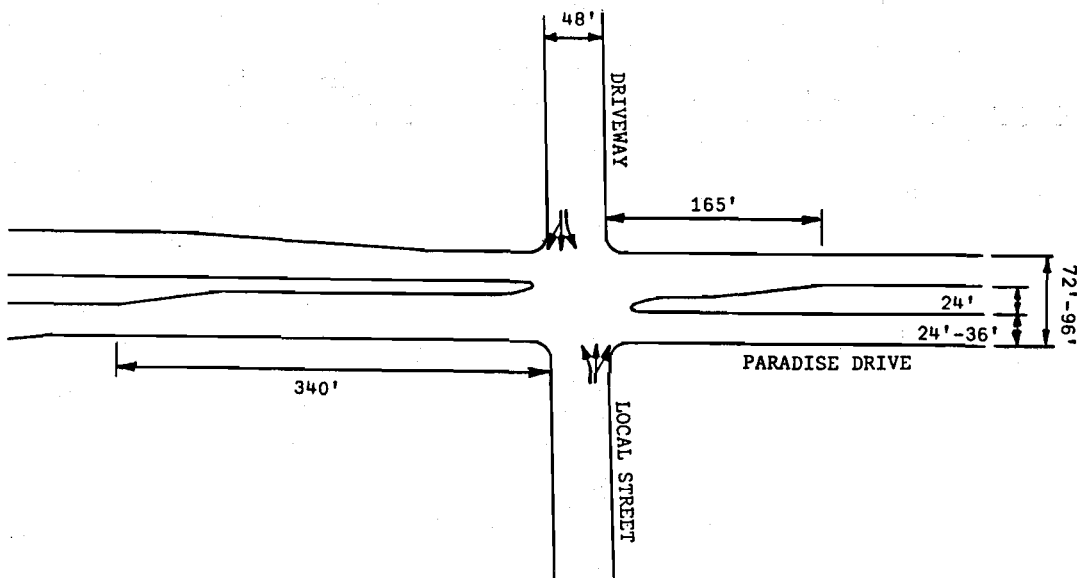
#### SUMMARY AND CONCLUSIONS

In October 1986, the City of West Bend requested that the Southeastern Wisconsin Regional Planning Commission conduct a study of the traffic impacts of, and the type of access which should be provided to, planned urban development along Paradise Drive between the USH 45 bypass and S. Main Street, including the proposed expansion of the Paradise Mall located at the northwest corner of the intersection of Paradise Drive and S. Main Street. Three alternative extensions of a collector street--Silverbrook Drive--which would, in part, provide such access were to be considered in the study. The study was to recommend which, if any, of these collector street extensions should be implemented, and the location and type of any additional access which should be provided to the lands abutting Paradise Drive to the north and, as well, to the south.

The study was also to recommend the improvements which would be necessary to Paradise Drive and at its intersection with S. Main Street, and with the proposed extension of 7th Avenue; and with any proposed new access to Paradise Drive required under a set of future development conditions, including upon the extension of 7th Avenue to Paradise Drive; upon the completion of a pro-

Figure 12

RECOMMENDED NEW INTERSECTION ON  
PARADISE DRIVE UPON DEVELOPMENT  
OF LANDS ABUTTING PARADISE DRIVE




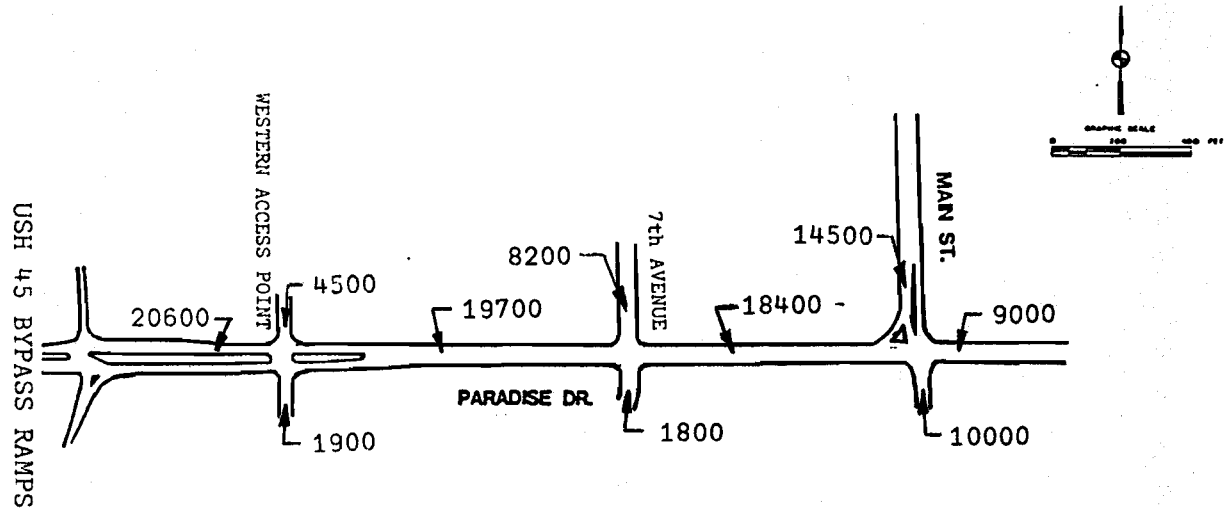
  
Not to Scale

Figure 13

PARADISE DRIVE YEAR 2000  
AVERAGE WEEKDAY TRAFFIC VOLUMES

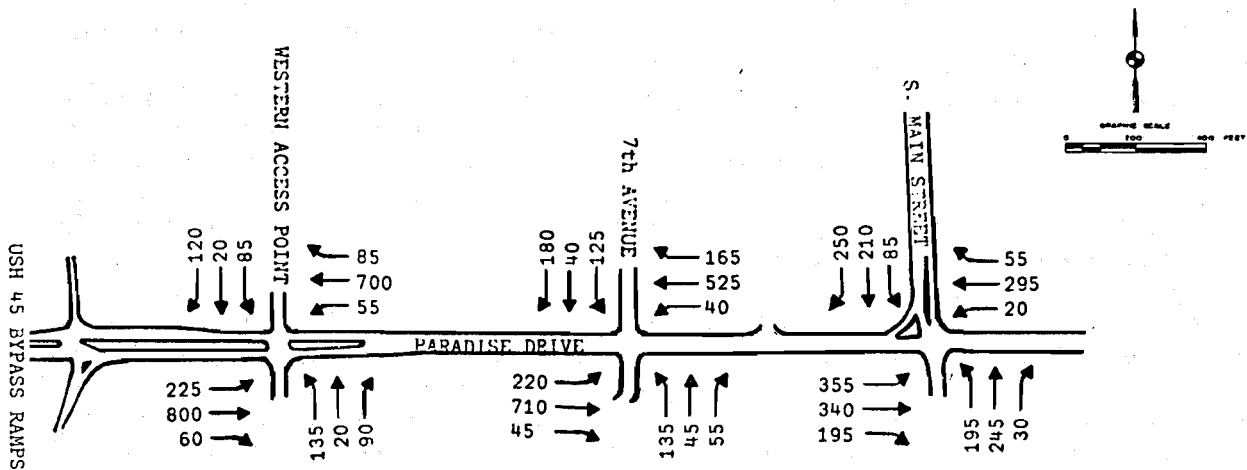


Source: SEWRPC.



Figure 14

PARADISE DRIVE YEAR 2000 AFTERNOON  
PEAK HOUR AVERAGE WEEKDAY TRAFFIC VOLUMES



posed extension of the Paradise Mall shopping center; upon the full development of the lands adjacent to Paradise Drive between the USH 45 bypass and S. Main Street; and by the year 2000, upon the development of the planned land use pattern for the City of West Bend and environs.

The study was requested by the City of West Bend to permit the preservation of the traffic-carrying capacity of Paradise Drive which, by its interchange with the USH 45 bypass--a facility which is proposed to provide a full freeway connection to USH 41--serves as a principal entrance to the City of West Bend.

The collector street extension recommended upon careful evaluation of the alternatives would extend Silverbrook Drive to the east to connect to 7th Avenue. The properties north of Paradise Drive between 7th Avenue and the USH 45 bypass which are proposed to be developed for commercial uses are recommended to be served by a single driveway on Paradise Drive which would be located approximately 550 feet east of the USH 45 bypass and 1,000 feet west of 7th Avenue extended. The driveway is recommended to provide the sole access from Paradise Drive to the proposed commercial land uses north of Paradise Drive between 7th Avenue and the USH 45 bypass. Access to these commercial land uses is also recommended to be provided from Silverbrook Drive extended and 7th Avenue extended. The circulation pattern provided within the planned commercial development will need to be carefully designed to ensure that it will not provide a potential "shortcut" between 7th Avenue and the USH 45 bypass and thereby promote the use by through traffic, and to ensure that access will be provided to all of the proposed commercial land use from the single driveway opening onto Paradise Drive.

The access proposed to be provided to Paradise Drive from lands to the south of Paradise Drive between the USH 45 bypass and Main Street is recommended to be limited to two points, one which would be located immediately opposite 7th Avenue and provide an extension of 7th Avenue south of Paradise Drive; and the other which would be located opposite the proposed driveway to the planned commercial land uses located north of Paradise Drive between USH 45 and 7th Avenue. It is further recommended that the proposed use for a portion of the lands south of Paradise Drive and immediately east of USH 45 be changed from residential to office use. This would ensure improved compatibility with the industrial land uses proposed to the east and, as well, with the freeway to the west. Also, it would avoid the need for potential access to the residential land uses from Paradise Drive to be provided through an industrial area.

The study provided estimates of the expected total and afternoon peak hour (4:30 to 5:30 p.m.) average weekday traffic volumes on Paradise Drive and at its intersections, upon the extension of 7th Avenue to Paradise Drive in 1987; upon the proposed expansion of the Paradise Mall in 1987; upon the full development of lands adjacent to Paradise Drive; and, in the year 2000, upon further anticipated and planned growth in the City of West Bend and environs. Anticipated traffic problems under each of these four sets of future conditions were described, and roadway improvements to alleviate those anticipated problems recommended.

The extension of 7th Avenue to Paradise Drive is anticipated to be completed in 1987. The extension of 7th Avenue would have a curb-to-curb width of 48

feet, generally providing two traffic lanes and two parking lanes. At its intersection with Paradise Drive, the southbound approach of 7th Avenue should be marked to provide exclusive left-turn and right-turn lanes. Upon the extension of 7th Avenue to Paradise Drive, it may be expected that approximately 3,000 vehicles per average weekday will use 7th Avenue. The traffic analyses indicate that Paradise Drive and its intersections with 7th Avenue and Main Street may be expected to operate within design capacity, and no improvements will be necessary. However, the traffic volumes through the intersection of Paradise Drive and 7th Avenue will approach levels requiring the installation of traffic signals.

The expansion of the Paradise Mall shopping center located between Main Street and an extended 7th Avenue along Paradise Drive is also anticipated to be completed in 1987. It may be expected that, with the extension of 7th Avenue and the completion of the Paradise Mall expansion, the intersections of Paradise Drive and 7th Avenue and Paradise Drive and Main Street will begin to carry traffic volumes exceeding design capacity, and will require improvement. The improvements required at the intersection of Paradise Drive and 7th Avenue upon the expansion of Paradise Mall include the installation of traffic-actuated traffic signals. The developer of the Paradise Mall has proposed the installation of traffic signals at this intersection as part of the mall expansion. Also at this intersection, it is recommended that pavement markings be provided for an exclusive left-turn lane on the eastbound approach of Paradise Drive. At the intersection of Paradise Drive and S. Main Street, it is recommended that an exclusive left-turn lane be constructed on the northbound approach of Main Street to the intersection.

An estimate was prepared of the average weekday traffic and afternoon peak hour average weekday traffic which may be expected to use Paradise Drive and its intersections upon full development of the lands abutting Paradise Drive, including the planned development of the West Bend Mutual Life Insurance Company office complex west of the USH 45 bypass. The full development of the lands adjacent to Paradise Drive will require, in addition to the roadway improvements necessary upon the expansion of Paradise Mall, reconstruction of an island in the center lane at the intersection of Paradise Drive and Main Street to provide an exclusive left-turn lane on the southbound intersection approach. At the intersection of Paradise Drive and 7th Avenue, an exclusive left-turn lane on the eastbound approach to the intersection will need to be provided by the construction of a traffic island.

The proposed extension of 7th Avenue south of Paradise Drive, as required to serve new land use development to the south, should be constructed to provide on the northbound approach of 7th Avenue at the intersection of Paradise Drive and 7th Avenue an exclusive left-turn lane and a combined through and right-turn lane. Also, upon the extension of 7th Avenue south of Paradise Drive, the pavement markings on the southbound approach of the intersection of 7th Avenue and Paradise Drive should be modified to provide an exclusive left-turn lane and a combined through and right-turn lane.

The intersection of Paradise Drive with the driveway providing access to commercial lands to the north and the local street which will be required to serve office and industrial uses to the south will require the installation of

traffic signals and the provision of exclusive left-turn lanes on both eastbound and westbound approaches of Paradise Drive; and the construction of two-lane northbound and southbound approaches at this intersection, providing in each case an exclusive left-turn lane with a combined through and right-turn lane.

A traffic forecast for the year 2000 was also prepared for the segment of Paradise Drive between Main Street and USH 45. Based upon this traffic forecast, it is recommended that the divided cross-section of Paradise Drive which currently terminates approximately 1,200 feet east of USH 45 be extended by the year 2000 to Main Street, thus converting the four-lane undivided cross-section to a four-lane divided cross-section. As part of this improvement, a number of additional intersection improvements should also be made, including at the intersection of Paradise Drive and 7th Avenue, an exclusive left-turn lane should be provided in the median on the westbound approach of Paradise Drive at this intersection; and at the intersection of Paradise Drive with the proposed local street proposed to serve planned office and industrial lands to the south and the driveway to serve commercial lands to the north, an exclusive right-turn lane should be provided on the eastbound approach.

The improvements recommended to Paradise Drive between the USH 45 bypass and Main Street thus can be staged to economically provide for the safe and efficient movement of traffic on Paradise Drive as the area develops, with the expansion of the Paradise Mall shopping center, the development of lands abutting this stretch of Paradise Drive, and the future development of the entire City of West Bend and environs.