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Your File/V/Réf.

DATE 21 August 2000

TO/DEST. Co-ordinator Transportation Committee

FROM/EXP. Director Mobility Services and Corporate Fleet Services
Environment and Transportation Department

SUBJECT/OBJET **MOTORCYCLE RACING - HERON PARK**

DEPARTMENTAL RECOMMENDATION

That Transportation Committee recommend Council approve that staff, in conjunction with the Ottawa-Carleton Regional Police Services, local residents and the ward Councillor, continue to seek measures that may be implemented to deter late-night motorcycle racing in the Heron Park area, and that the pilot project previously approved to assess the effectiveness of rumble strips as speed control devices for those vehicles be abandoned.

BACKGROUND

On 19 April 2000, Transportation Committee considered a staff report dealing with late-night motorcycle racing in the vicinity of the Heron Road/Bronson Avenue interchange. In summary, the report noted that:

- Motorcyclists have come to regard that area as an ideal venue for late-night racing as it is well illuminated, offers a wide variety of alternative circuits, topographical challenges and high-speed get-away routes.

- The racing is usually confined to late-night periods as it poses few risks to other road users; however, that is of no consolation to local residents who must contend with the noise impacts.

- Police can do little to curb these activities as the area is open and with little traffic on the road at that time of night, their arrival is conspicuous. Officers are not permitted to engage in high-speed chases and even if they were, the cars and motorcycles they are equipped with simply can't catch the

participants. When they do pull motorcyclists over in the area, they are then faced with the challenge of proving that those particular drivers had been racing. There are seldom witnesses, many motorcycles and helmeted riders look the same and in many cases, it's virtually impossible to identify one from another unless a license number can be used. That poses additional difficulties as the small license plates on those vehicles cannot be read under high-speed, low-light conditions.

- Participants don't race head-to-head - they usually compete in "time trials" with staged starts so each competitor is separated from the next by several seconds. Since anyone with proper certification may operate a motorbike, and in the eyes of the courts everyone is innocent until proven otherwise, convictions for racing are difficult to obtain if those charged deny the claim and indicate they were simply travelling alone, through the area, on the public roads.

- In view of these noise disturbances and enforcement difficulties, the ward Councillor tabled an inquiry at the Transportation Committee meeting of 15 September 1999, asking that staff report "on possible structural changes that could be made to the road to discourage such use".

- A task force comprised of local residents, staff, police, elected officials and a representative from Public Works Canada was formed. The residents were convinced that the solution lay in altering the road surface. They recalled that when the interchange ramps were "milled" for paving last summer, the racing stopped and overnight tranquillity returned. When the new pavement was laid, the racing resumed and the noise was worse than ever.

- An extensive literature and web search was conducted to see if similar situations had been dealt with by other road authorities; however, it failed to produce any meaningful results.

- The motorbikes used in these activities are road-racing types and dealers advised that their suspension systems are designed for undulating changes in road surface, not "wash-board" conditions. Based on that insight and the observed result of road milling the year before, there was consensus on the task force that rumble strips appeared to offer the most viable solution and should therefore be tested as a means of deterring that late-night annoyance.

On 26 April 2000, Council approved the Committee recommendation that "staff, in conjunction with the Ottawa-Carleton Regional Police Services, undertake a pilot project to assess the effectiveness of rumble strips as speed control devices, in the Heron Park area and for the specific purpose of deterring late-night motorcycle racing."

DISCUSSION

It was proposed in the previous report that as a starting point, rumble strips similar in profile to those used along the shoulders of Highway 416 be tested. This required that a series of "scalloped", semi-circular grooves approximately 7" wide and ½" deep be milled into the pavement at 12" intervals. It was also proposed that two configurations be tested, one consisting of a series of 5 grooves and the other comprised of 10 grooves.

A contractor was hired for the grinding work and arrangements were made to cordon off a test-site at Lansdowne Park. Initially, the contractor was instructed only to apply the "scalloped" grooves outlined above; however, after more fully understanding the intent of the pilot project, it quickly became apparent to the contractor that other groove profiles could also be applied by removing some of the cutting teeth from the grinding drum. It was therefore decided to expand the study to include two other groove types - both "square" cuts, one consisting of ½" deep grooves, 4" wide at 12" intervals and the other consisting of 1" deep grooves, 7" wide at 12" intervals. Furthermore, since the contractor was keen to oblige in any other way possible and because staff had become aware that as part of overlay projects in the Kitchener-Waterloo area, "rolled-in" rumble strips are routinely installed by that road authority on the approaches to stop signs, it was decided to further expand the study to include "rolled-in" grooves of that type.

In summary then, the pilot project became much more comprehensive and the test site featured 8 different rumble strips consisting of 4 different groove types, each applied as a series of 5 grooves and then some distance away, as a series of 10 grooves. To evaluate their effectiveness as speed deterrents, they were arranged near the mid point of four different driving lanes so that the 5 groove series could first be impacted at different speeds by northbound drivers and the 10 groove series could first be impacted at different speeds by southbound drivers. The four groove types used in this test are illustrated in Annex A.

TEST RESULTS - RUMBLE STRIPS

The rumble strips were tested on Thursday 27 July 2000 under dry, sunny conditions (25° C). The fundamental purpose of the test was to assess the effectiveness of each strip as a possible deterrent to high-speed motorcycle operation; however, because other drivers and cyclists would also have to contend with these devices if installed on public roads, cars and bicycles were included in the test. In that regard, staff wish to extend their sincere thanks to all participants, especially those from the Regional Cycling Advisory Group.

Four different motorcycles were used - three were 1999 Harley-Davidson FLH 1450cc types owned and operated by Ottawa-Carleton Police and the other was a year 2000 racing type (Honda VFR 800) owned and operated by Mr. Bruce Cole, a motorcycle enthusiast and former racer. Two mid-sized cars were used - one a 1991 Toyota Tercel and the other a 1998 Honda Prelude, and, a wide cross-

section of bicycles were used varying from a Marinoni racing type with 27" tires inflated to 120 psi., to mountain bike/hybrid types, to a fold-up bike with 20" tires inflated to 100 psi.

All participants were provided with evaluation sheets and asked to traverse each rumble strip at different speeds and to provide an indication of the comfort, or discomfort, they experienced. Since the effects of traversing various rumble strips can only be expressed by drivers and cyclists on a very subjective basis, participants were asked to assign a value between 1 and 5 to each test, where:

- 1 indicated - no discomfort;
- 2 indicated - little discomfort;
- 3 indicated - uncomfortable;
- 4 indicated - very uncomfortable and would proceed with caution; and,
- 5 indicated - unsafe and would avoid the roadway with this type of rumble strip.

In the end, it became abundantly clear that regardless of their shape and frequency, ground-in rumble strips of the types tested only produce noticeable levels of discomfort for motorcycle operators at speeds less than 20 km/h and the rolled-in types tested were comfortable to traverse at any speed.

More importantly, the tests showed that none of the rumble strips had any effect whatsoever on the high-speed operation of motorcycles. In fact, all participants - motorcycle operators, car drivers and cyclists alike, agreed that the faster those devices are traversed the less noticeable they become. The police and Mr. Cole tested all of the rumble strips at speeds up to 90 km/h and felt confident that similar results would have transpired at higher speeds still; however, they were unable to prove that as the test site was not long enough to enable them to safely accelerate to and decelerate from, speeds in excess of 90 km/h.

As a result of those findings, it was decided to extend the pilot project even further to include an evaluation of "milled" road sections as deterrents to high-speed motorcycle operation. This involved having the contractor return to Lansdowne Park to grind a swath approximately 6 ft wide and 1" deep over a distance of 100 ft using a very aggressive "angled" cut.

TEST RESULTS - MILLING

The "milled" road section was tested on Tuesday, 1 August 2000 under damp, humid conditions (23 °C). Two motorcycles were used - one a 1999 Harley-Davidson FLH 1450cc owned and operated by Ottawa-Carleton Police and the other was the year 2000 Honda VFR 800 owned and operated by Mr. Cole. Several bicycles were also used in this test; however, because car drivers are routinely exposed to milled-out sections of road during overlay programs, cars were not included.

This test revealed that milled sections do have some impact on the comfort experienced by motorcyclists at lower and mid-range speeds; but, depending on the type of motorbike, those impacts become less of a concern at higher speeds. The police officer acknowledged that for their machines, "the strip is enough for the average rider to psychologically take note and come off the accelerator".

The police officer rated the milled section as being uncomfortable at speeds at and below 50 km/h and as having "little discomfort" at speeds of 60 and 70 km/h. Again, the strip could not be assessed at higher speeds than that because the test site was not long enough to enable the officer to safely accelerate to and decelerate from, speeds over 70 km/h.

The racing motorbike driven by Mr. Cole is a much faster and more agile machine than the types used by the police. He also rated the milled section as being uncomfortable at speeds at and below 50 km/h and as having "little discomfort" at speeds of 60 and 70 km/h; however, beyond that, at speeds up to 100 km/h, he experienced no discomfort whatsoever.

Cyclists rated the milled section as being uncomfortable to moderately uncomfortable; however, they too acknowledged that at higher speeds, their discomfort was reduced.

In summary then, this test confirmed that milled sections on straightaways have no impact as deterrents on the operation of high-speed racing motorcycles.

OTHER CONSIDERATIONS

The previous report explained the legal implications which could arise if a motorcyclist is killed or seriously injured as a result of striking a rumble strip and losing control. It stressed that we are dealing with public roads, that anyone is permitted to own and operate a motorcycle provided they acquire the proper licensing certification and that not all motorcycle operators are racers. It went on to note that in trying to develop an acceptable solution to this problem, we are really trying to create a situation that discourages motorcycle racing yet does not impact on the safety of other roadway users, especially cyclists.

SUMMARY

The tests conducted during the pilot project have confirmed that motorcycles used in these late-night racing activities are sophisticated, high-tech, state-of-the-art machines. Virtually every component, including their suspension systems, is designed using computer-assisted design technology and the materials used in their construction have been specifically chosen for maximum strength at minimum weight. There are simply no conditions routinely encountered on dry, paved public roads that these machines cannot cope with. In that regard, staff wish to convey their sincere thanks and appreciation to the Ottawa-Carleton Regional Police Services and especially to Mr. Bruce Cole, for the time and valuable input they provided to this project.

In view of the test results, it is therefore the opinion of the Project Manager that the solution to this problem does not lie in the use of either rumble strips or milled road sections, if those measures are to be applied only to straight, flat road sections. Those devices may be effective as speed deterrents if applied through curves or on downgrades; however, in such circumstances, the risks introduced to public safety far outweigh any possible benefits they might produce in deterring racing.

Accordingly then, it is proposed that the rumble strip pilot project be abandoned and that staff continue to work with the task force, police and the ward Councillor, to seek other solutions. These may be found in geometric changes, such as the provision of narrow medians on currently undivided road sections, augmented by more sophisticated countermeasures such as video surveillance. If racers could be confined to fewer routes through those geometric changes and observed through video technology, it appears highly probable that enforcement opportunities would be strengthened.

Similarly, the use of video surveillance in conjunction with remotely-activated roadway sprinkling systems, will also be explored.

CONSULTATION

This issue has arisen at and been responded to by staff, police and the Regional Ward Councillor, at Neighbourhood Committee meetings in all three of the affected areas (i.e. Heron Park North, Ottawa South and the Glebe). In addition, the ward Councillor had over 18,000 flyers delivered in the noise catchment area this past Spring, alerting residents that the issue would be considered at the Transportation Committee meeting of 19 April 2000. The neighbouring public are also reminded of the issue whenever late-night racing activities occur.

FINANCIAL IMPLICATIONS

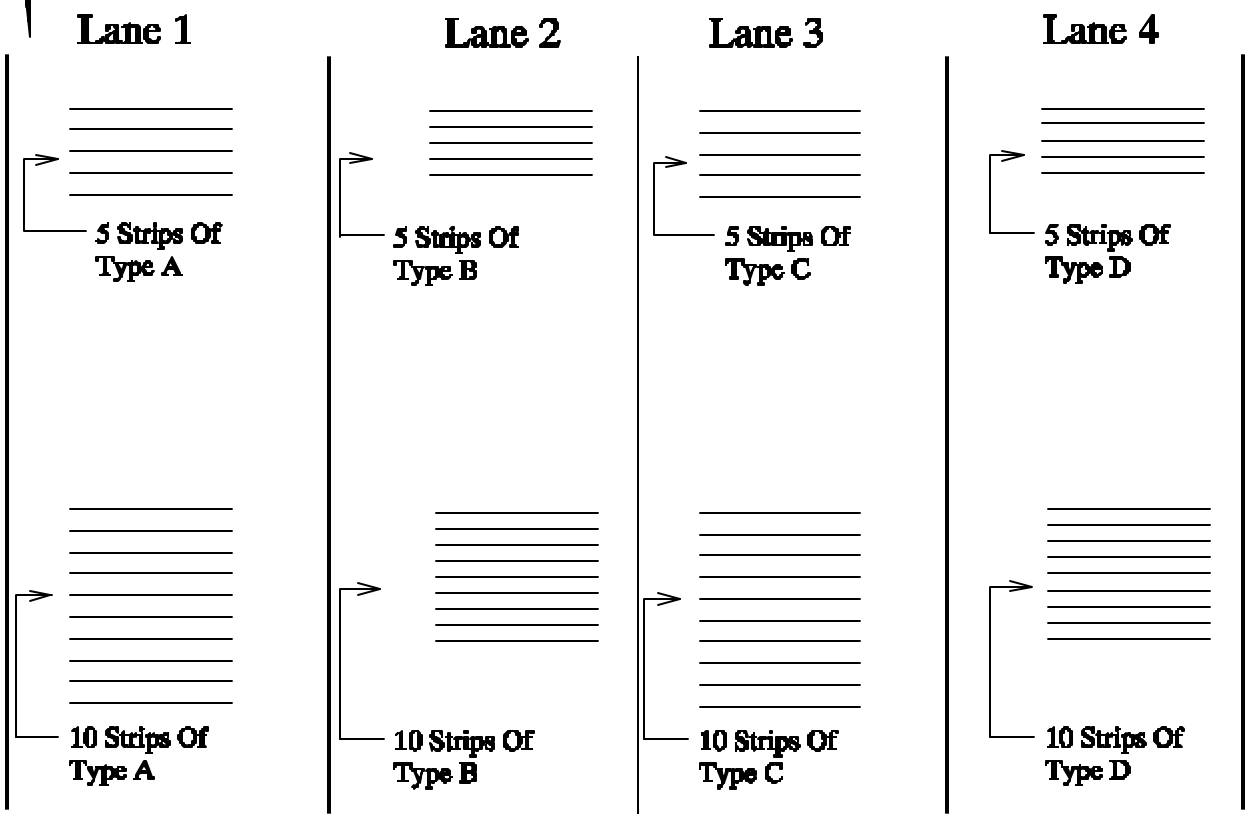
To date, staff have expended approximately $12,000 on this project - all in grinding and re-paving costs associated with the rumble strip test site. As previously noted, staff will continue to work with and draw upon the expertise of others in developing other possible solutions to this problem. In that regard, it will be necessary to retain a consultant for detailed geometric design needs and those costs alone will be in the order of $50,000. Funds for that aspect of the project will be identified and requested in the Department's upcoming 2001 Budget submission.

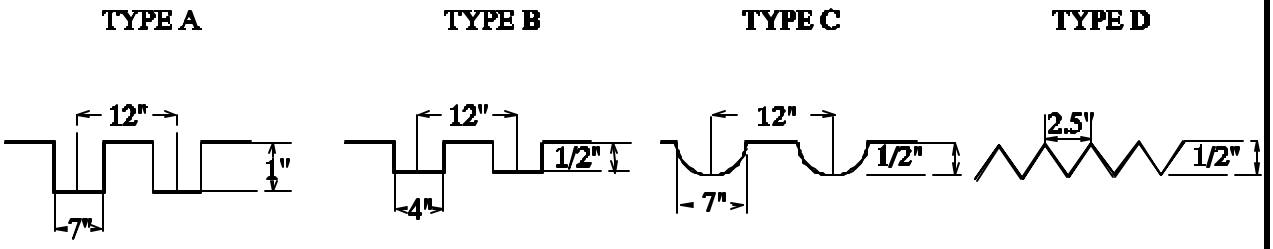
Approved by
Doug Brousseau

JFB

Attach. (1)

ANNEX A





Ottawa-Carleton ENGINEERING DIVISION Environment and Transportation Department	ILLUSTRATION & CONFIGURATION OF THE RUMBLE STRIPS TESTED AT LANSDOWNE PARK	Checked By: Natalie Tasker Compiled By: GEOServices Scale: N.T.S. Date: Aug. 23,2000 This map/publication has been prepared and/or derived from the Geographic Information System of the Region of Ottawa-Carleton and is protected by copyright Dwg. #: FM_185