

TORONTO TRANSIT COMMISSION REPORT NO.

MEETING DATE: DECEMBER 17, 2008

SUBJECT: GREENWOOD YARD NOISE COMPLAINTS

ACTION ITEM

RECOMMENDATION

It is recommended that the Commission support the actions as described in this report and summarized as follows:

1. Staff to arrange an assessment of the airborne noise from the yard affecting the adjacent community.
2. The assessment will be conducted by the Acoustical Technical Services Consultant currently under contract with the Commission.
3. Staff to continue communication with the concerned group in the community and with the local Councillor.

FUNDING

Sufficient funds for the assessment are available under the current Acoustical Technical Services Contract.

BACKGROUND

The Greenwood Yard facility is one of three properties dedicated to the running maintenance and service operation of the Toronto Transit Commission's subway fleet.

The 31 acre property opened in 1965 and is located on Greenwood Avenue just south of Danforth Avenue. The Greenwood Yard is the TTC's major centre for servicing and repair of the subway operating fleet and subway maintenance equipment. The yard operates as a carhouse providing storage, inspection and running maintenance to the revenue fleet on the Bloor-Danforth line. The yard also contains the major overhaul and repair shops for the entire fleet of subway vehicles. Like others, this yard operates on a 24-hour a day, 7-days a week basis to support the subway service. During the peak service periods on weekdays, the use of the yards is minimal because many trains are in service. As service diminishes, train movement and work in each yard increases. The yards are particularly busy in the evening and early morning hours during the non-operating periods when the subway

fleet is serviced and maintained. When work on the trains is completed, the trains are put into position for the following day's morning service.

In addition to revenue vehicle servicing, Greenwood Yard is the centre for servicing and operation of workcars used by the Track and Structure Department in carrying out repair and maintenance of the entire subway system. Work to maintain the subway system begins to intensify at approximately 10:00 p.m. Materials and equipment are loaded onto workcars and trucks and staged for departure, coinciding with shutdown of subway revenue service between 1:00 a.m. and 2:30 a.m. the following morning. During the four-hour service shutdown, work is carried out on the subway line and the trucks and workcars then return to their home yards between 5:30 a.m. and 7:00 a.m.

In May 2008, the TTC received communication from a resident on the east side of Greenwood Avenue, opposite the Greenwood Yard, and in August 2008 another communication was received from a resident on the east side of Greenwood Yard, as well as an eight-year resident at the south-west quadrant of the yard. Each expressed concerns specific to squealing noise associated with subway train movement within the yard after 2:00 a.m. The common element of concern was that there was a reported significant increase in squealing noise over the past eight months, and in that respect, it was the worst summer in years. In an effort to address the concern, adjustments were made to the grease lubrication system on the runaround track. However, it was noted that many factors influence noise levels, particularly the dramatic fluctuation in overnight and daytime temperatures that occur during the spring and early fall that may reduce the effectiveness of the grease lubrication system and affect the interaction between the wheels and the rails. The record rainfalls experienced this year in Toronto, along with humidity levels during the summer months, may have also affected the effectiveness of the grease system.

In September 2008, the local Councillor on behalf of her constituent at the south-west quadrant of the yard communicated to the TTC about his matter. In addition, a 44-year resident on the east side of the Greenwood Yard, 473 Greenwood Avenue, complained about being disturbed overnight by the squeal noise from subway movement.

On October 1, 2008, at a resident's request, a meeting was held in front of his home at 473 Greenwood Avenue. A small group of residents from the east side of Greenwood Avenue, as well as the resident at the south-west quadrant of the yard and the Constituency Assistant to the local Councillor, met with two representatives from the TTC.

The residents expressed a number of concerns regarding TTC operations at its Greenwood facility. The residents' main concern was that something had changed over the last eight months to generate excessive overnight noise levels from the movement of subway trains within the yard. During the meeting, a small number of trains moved south from the north end toward the carhouse. While some squealing was present, the residents stated that in these few instances the squealing was not as loud as they had experienced overnight in the recent past.

The residents noted some of their observations and suggestions as to the reasons for increase in noise from the yard, such as, the speed of trains; vehicles braking; wheel squeal through switches and curves; vehicles moving south through the yard (from the rail shop to the carhouse), and the squeal noise was less during a rainfall.

Other concerns raised by the residents included; another type of noise from moving trains as if something was broken; a front-end loader used south of the main entrance gate is extremely noisy between 1:30 a.m. and 2:00 a.m.; and normal conversations during the course of the overnight and early morning hours between staff standing outside the carhouse carry far and are disturbing.

Several initiatives were suggested by the residents to help reduce the disturbance including planting a cedar hedge along the fence line, construction of a sound barrier wall and reducing train speeds in the yard.

It was agreed that the TTC would investigate the concerns and respond back to the group and local Councillor by October 31, 2008. All attendees were satisfied with the exception of the resident of 473 Greenwood Avenue who was disappointed that remedial action by TTC staff was not being taken immediately (that same night).

Subsequent to the October 1st meeting, TTC received further communications from some residents who attended the meeting, reporting more sleepless nights resulting from train movement squealing noise at 3:00 a.m.

DISCUSSION

The occurrence of wheel/rail noise is a normal by-product of rail transit operations along tight curves. When subway trains, with their solid axles, travel over curved track the outer wheels travel further than the inner wheels. The inner wheels slip on the rail and create a squealing noise. Many other factors influence noise levels, particularly the dramatic fluctuation in overnight and daytime temperatures that occur during various times of the year as well as humidity levels. To help reduce the levels of this type of noise the TTC installed an automatic grease system in the 1990s to the circular track at the south end of the yard, known as the runaround track.

On October 31, 2008 a response (copy attached) was provided to the group. To summarize, there did not appear to be any significant changes to yard operations to suggest that something had changed to create an increase in squealing noise from the movement of trains in the yard. (It should be noted at this point, however, that the TTC must reserve the need to make changes in yard operations at the Greenwood facility as required, in order for the TTC to continue to provide reliable subway service to its customers). Staff have been reminded to be more conscious of their activities during night time hours, understanding that the human voice can carry long distance resulting in disruptions to our neighbours sleep.

The TTC will request an assessment of the yard airborne noise by the Acoustical Technical Services Consultant currently under contract with the Commission. The opportunity would be taken to show the consultant the problem area and obtain advice regarding potential noise reduction. In addition, the installation of a wheel lubricator, in the vicinity of the portal, at the north end of the yard, might assist in reducing the wheel squeal caused by trains moving south through the switches and curves at the north end of the yard. We will discuss this option with the consultant and if he is in agreement, include the cost of wheel lubricators in our next budget request in the spring of 2009 for installation in 2010.

We will follow-up with a further report to the residents and Councillor Paula Fletcher following the review of the situation with the consultant in mid-December 2008 or early January 2009.

JUSTIFICATION

In a November 10, 2008 letter to the TTC Chair, (copy attached) the local Councillor requested that the TTC expedite the acoustic testing.

As per Recommendation 1, staff are arranging for an assessment of the airborne noise from the yard affecting the adjacent community. On December 2, 2008, staff held a site meeting at Greenwood Yard with two representatives from the acoustical consultant to review yard operations and the residents' concerns. Staff has requested a work assignment proposal from the consultant for the assessment.

6-355
December 9, 2008
Attachments