

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
অতিরিক্ত প্রধান প্রকৌশলী (সওজ) এর কার্যালয়
টেকনিক্যাল সার্ভিসেস উইং
এলেনবাড়ী, তেজগাঁও, ঢাকা।
ফোন/ ফ্যাক্স: ০২-৯১০১৪৬৭
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স্মারক নং : ৩৫.০৩.০০০০.০০৫.০২(৩৫২৬)৯৯.৩৯৫৬ টিঃ ৩৭ঃ

তারিখঃ ২৮/০৭/২০২১

বিষয় : রোড সেফটি অডিট রিপোর্ট অনুযায়ী প্রয়োজনীয় ব্যবস্থা গ্রহণ প্রসঙ্গে।

উপর্যুক্ত বিষয়ের প্রেক্ষিতে জানানো যাচ্ছে যে, নিম্নোক্ত ছক অনুযায়ী সড়ক ও জনপথ অধিদপ্তরের আওতাধীন বিভিন্ন সড়কংশে রোড সেফটি অডিট কার্যক্রম সমাপ্ত হয়েছে। উক্ত অডিট কার্যক্রম পরামর্শক প্রতিষ্ঠান 'SARM Associates Limited JV with HeptaTach Limited' এবং রোড সেফটি বিভাগ কর্তৃক সম্পাদনপূর্বক বিস্তারিত প্রতিবেদন প্রণয়ন করা হয়েছে।

সড়ক নং	সড়কংশ	দৈর্ঘ্য (কিঃমিঃ)
এন-৩	জয়দেবপুর-ময়মনসিংহ	৯০.০০
এন-১	কাঁচপুর-দাউদকান্দি	২৯.০০
	চট্টগ্রাম-কক্সবাজার	১৪৯.০০
এন-৬	কাশিনাথপুর-রাজশাহী	১৫০.০০
এন-৫	ঢাকা-আরিচা	৭৯.০০
এন-৮০৫	ভাঙ্গা-খুলনা (নোয়াপাড়া)	১১১.০০

এমতাবস্থায়, উক্ত প্রতিবেদন অনুযায়ী প্রয়োজনীয় ব্যবস্থা গ্রহণ পূর্বক অডিটকৃত সড়কংশ নিরাপদ করার জন্য বিশেষভাবে অনুরোধ করা হলো।

সংযুক্তিঃ অডিট রিপোর্ট ১ (এক) প্রস্তুত।

(মোঃ আবদুল ওয়াহিদ)

পরিচিতি নং-০০৫১০৯

অতিরিক্ত প্রধান প্রকৌশলী, (চঃদাঃ), সওজ

টেকনিক্যাল সার্ভিসেস উইং

এলেনবাড়ী, তেজগাঁও, ঢাকা

অতিরিক্ত প্রধান প্রকৌশলী, সওজ

সড়ক জোন, ঢাকা/ময়মনসিংহ/চট্টগ্রাম/রাজশাহী/গোপালগঞ্জ/খুলনা

অনুলিপি কার্যার্থে :

- ১। তত্ত্বাবধায়ক প্রকৌশলী, সওজ, রোড ডিজাইন এন্ড সেফটি সার্কেল, এলেনবাড়ী, তেজগাঁও, ঢাকা।
- ২। নির্বাহী প্রকৌশলী, সওজ, সড়ক বিভাগ, গাজীপুর/ময়মনসিংহ/নারায়নগঞ্জ/চট্টগ্রাম/দোহাজারী/কক্সবাজার/পাবনা/নাটোর/রাজশাহী/ ঢাকা/ মানিকগঞ্জ/গোপালগঞ্জ/বাগেরহাট/মাদারীপুর।
- ৩। নির্বাহী প্রকৌশলী, সওজ, রোড সেফটি বিভাগ, এলেনবাড়ী, তেজগাঁও, ঢাকা।
- ৪। সিনিয়র সিস্টেম এনালিস্ট, তাঁকে রোড সেফটি অডিট রিপোর্ট-টি সওজ ওয়েব সাইটে আপলোড করার জন্য বিশেষভাবে অনুরোধ করা হল। সংযুক্তিঃ অডিট রিপোর্ট -১ (এক) কপি (সিডি সহ)।

Road Safety Audit Report

Road Name: Bhanga-Bhatiapara-Mollahhat-
Fakirhat- Noapara National Highway (N805)
Audited Length: 111 Km

**Road Safety Division
Road Design and Safety Circle
Elenbari, Tejgaon , Dhaka**

May, 2019

Road Safety Audit Report

The main objective of this Road Safety Audit program is to visualize the present condition of the Highway and to diagnose the road safety issues. Around 111 km of N805 has been visited during this audit program starting from Ch 00 +000 Km (Bhanga) to Ch 110 +633Km (Noapara) of Bhanga-Bhatiapara-Mollahhat-Fakirhat-Noapara National Highway.

It has been observed that, though the road surface condition is fair to good in terms of riding quality, but some major road safety issues have been identified through this road inspection, following Master check list of RHD road safety audit guideline- 2015. More importantly, immediate actions are needed to be taken for reducing the risk of potential road crashes.

Observations

The problems and the complications which have been identified are more or less common throughout the total length of N 805. For example, proper road marking was found in very few chainages, in most of the cases they were either blurred or missing. Similarly, the absences of Hazard Marking, Reflective paint and unauthorized/ illegal road encroachment were common scenarios. Hence, this report specifies some categorized problems and complications regarding road safety issues at different chainages.

✚ Side Road at Junction/Intersection

Problem: Most of the side road either connecting in Y shape or T, are found to be risky due to poor layout and visibility. They are too steep and sometimes the risk would be too high when their visibility is severely hampered due to road side trees, unauthorized billboard etc.



Figure 01a: Too Steep Side Road (Near LRP 002)



Figure 01b: Side Road with Visual Obstruction (Near LRP 093)

Recommendation: Minor roads (Side roads) should be connected to Major Road in such a way that the 3-wheeler non-motorized vehicle cannot enter directly to the Highway. Moving vehicle from side road needs to enter in main Highway through merging lane. RHD minor road and other (e.g LGED, Pouroshova etc) roads should not directly connect to the highway, rather it should follow the typical design given below. More importantly, road side trees, unauthorized billboard etc., needs to be removed to improve the visibility of the driver. It should be noted that as Y and X type junctions are more dangerous, the layout should be re-aligned in such a way that it turns to T and + type at junction.

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MAJOR-MINOR T-JUNCTION (TYPE DESIGN)

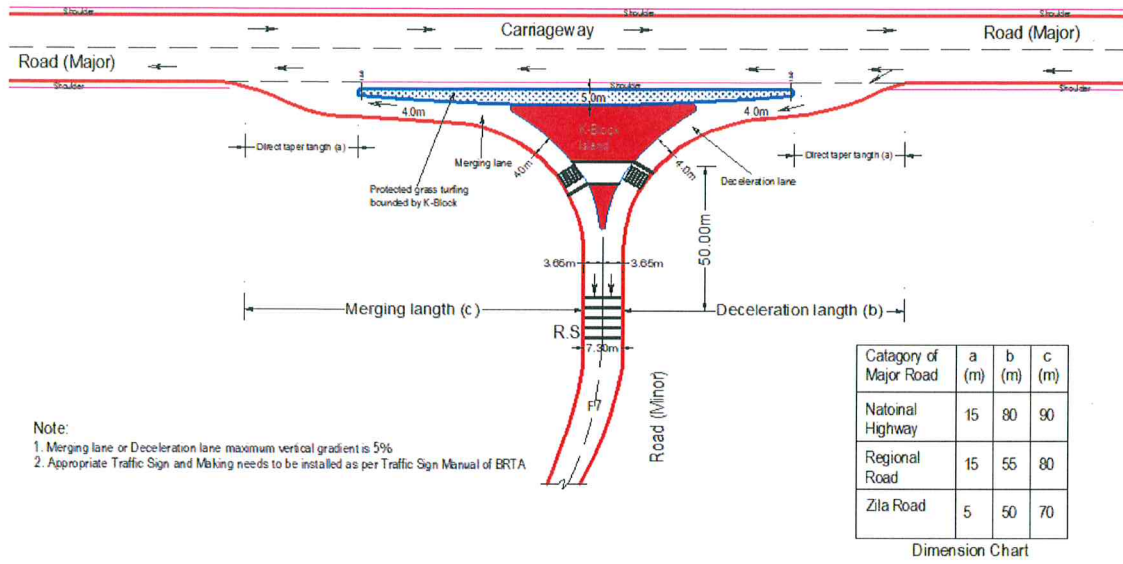


Figure 01c: Typical Design for T-Junction (With Merging Lane)

🚧 Road side Hazard

Problem: Different types of hazardous items are stacked either in the soft shoulder or sometimes in the carriageway at different chainages throughout the Highway. Even at some chainages the highway is experiencing unauthorized construction work.



Figure 02a: Hazardous Item (Near LRP 002)

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Figure 02b: Hazardous Item (Near LRP 003)



Figure 02c: Hazardous Item (Near LRP 010)



Figure 02d: Unauthorized Structure (Near LRP 038)

Recommendation: Road side hazards should be cleared with the help of local administration, if needed. Moreover, continuous monitoring is needed to keep road side free, to ensure safe clear zone. If any object cannot be relocated or immovable in nature within the clear zone, hazard marking should be ensured, so that it can be visible particularly at night. Regular eviction is needed to discourage such illegal encroachment.

Unauthorized board

Problem: Various unauthorized information boards have been seen which does not match with the traffic sign manual, considered as illegal. This type of billboards become more risky when it is situated very close to pavement and obstruct the visibility of the other road sign and side roads. Besides, too many boards with various informations distract the attention of the driver.





Figure 03a: Unauthorized Billboard (Near LRP 004)



Figure 03b: Unauthorized Billboard (Near LRP 020)



Figure 03c: Unauthorized Billboard (Near LRP 108)



Figure 03d: Unauthorized Billboard (Near LRP 108)

Recommendation: Road side unauthorized boards should be cleared with the help of local administration, if needed. Moreover, continuous monitoring is needed to keep the road side free, particularly at clear zone. Information sign should be provided following the traffic sign manual.

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✚ Bridge and approach with poor safety measures

Problem: Almost all bridges on this Highway is found without any types of Road Marking. Some bridges seem freshly painted but none of them are reflective. Some of the bridge approaches are without proper delineation/ guide post and other safety barriers. At the chainage of 101+ 500 two consecutive bridges were found to be more hazourdous due to lack of proper safety measures.



Figure 04a: Bridge (Near LRP 006)



Figure 04b: Bridge (Near LRP 094)

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Figure 04c: Bridge (Near LRP 100)

Recommendation: Bridge approaches should have adequate safety measures though installation of guide post and/or crush barrier, especially in high embankment. Moreover, the entry post of the bridge railing should have appropriate hazard marking to improve conspicuity of railing at night. *No Overtaking Sign* along with marking is mandatory of such bridges and approaches.

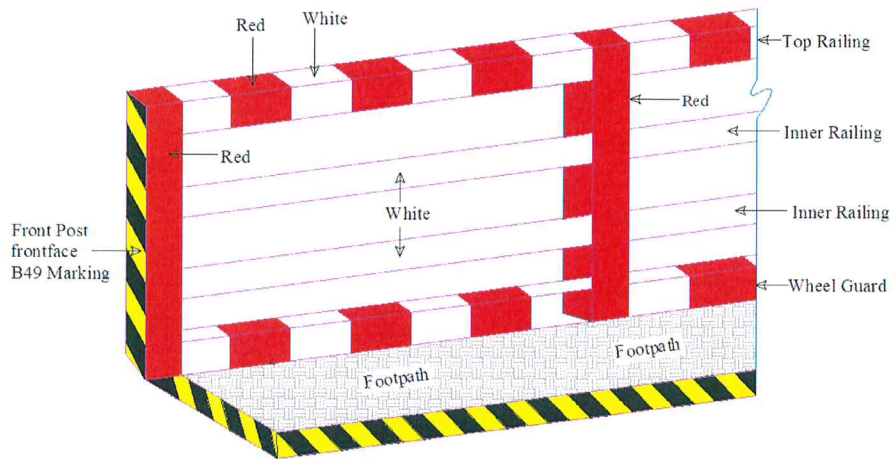


Figure 04d: Typical Safety Measures at Bridge Railing End

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✚ Unauthorized Speed control measures

Problem: Numerous speed breakers are found in different locations throughout the N805 which are unspecified and are creating stress to the drivers.



Figure 05a: Unauthorized Speed Breaker (Near LRP 015)

Recommendation: Any unauthorized speed breaker should be dismantled. Speed hump or table can be installed, depending on speed limit. Speed table can be installed with raised pedestrian crossing (if pedestrian crossing needed) with sets of rumble strips ahead of such speed reducer with appropriate traffic sign and marking.

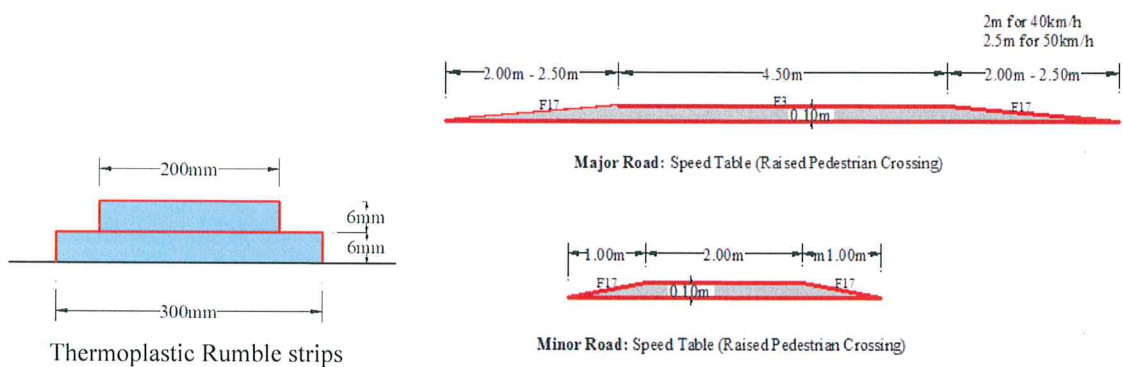


Figure 05b: Typical Design for Speed Table and Thermoplastic Rumble strips

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✚ Unspecified Road Markings ,Traffic signs & Shoulder

Problem: At some chainage the road Markings and traffic signs are found to be unspecified in their dimensions and at some chainage they are found to be incorrect. Adequate *chevron sign* is not given on sharp bend. *No Overtaking Sign* is used in the road, but a *Broken White Center Line* is given instead of *Continuous White Line* which is improper and dangerous. Some identical unspecified speed limit is provided but speed restriction end signs are totally absent. Shoulder and the carriage way are not at the same level which makes the road more susceptible to road crush.



Figure 06a: Unspecified Speed Limit Sign (Near LRP 019)



Figure 06b: Incorrect Road Marking at No Overtaking Area (Near LRP 108)



Figure 06c: No road sign at Sharp Bend (Near LRP 030)

Recommendation: Road sign size shape and placing should conform the traffic sign manual. To fix the speed limit of any road segment, it should be appropriate as per traffic sign manual, shown in Paragraph E2.3. After imposing appropriate speed limit of any area, speed restriction end sign also needs to be placed at the end. To have better visibility at night, Signs should be retroreflective, therefore it should be diamond grade as per traffic sign manual. Road marking, particularly at sharp bend, it should have continuous center line with chevron marking on the outer side of the road at certain intervals. Any obstructed vegetation needs to be cleared at inner side of the curve. Shoulder drop is dangerous and therefore needs to be same level with the main carriageway.

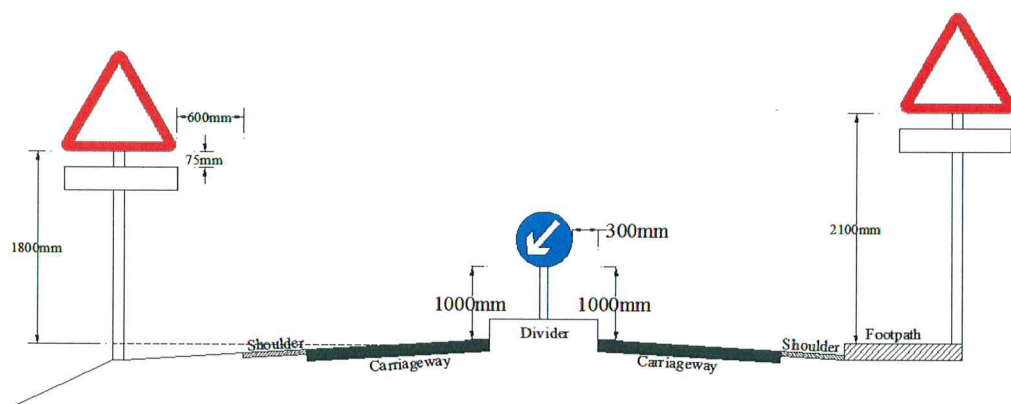


Figure 06d: Typical Road Section with proper Sign

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✚ Unauthorized Parking & Illegal Stoppings

Problem: Unauthorized Parking and illegal Tea Stall, small shops are found in different chainages, especially near the junctions. Slow moving vehicles are found sitting pointlessly even at the sharp bend.



Figure 07a: Unauthorized Parking & Illegal shops at Link Road (Near LRP 022)



Figure 07 b: Unauthorized Parking & Illegal shops at Bridge site (Near LRP 057)



Figure 07 c: Unauthorized Parking & Illegal shops (Near LRP 057)



Figure 07 d: Unauthorized Parking & Illegal shops at Sharp Bend (Near LRP 024)

Recommendation: Any three wheeler's entry to main highway is totally restricted as per government order. Strict enforcement is needed against unauthorized parking. Any structure within the right of way (ROW) of RHD, should be evicted with the help of administration.

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✚ Slow Moving Vehicle (SMV) plying on Carriageway

Problem: It is very common to see three wheeler vehicles using the same lane along with the high speed vehicles. These situations are leading to high risk of occurring accident.



Figure 08: Three wheeler plying on Carriage Way at Sharp Bend (Near LRP 030)

Recommendation: Any three wheelers and other NMV entry to main highway are totally restricted as per government order. Strict enforcement is needed against such activities. *No Entry Sign* can be placed at the side road, connecting to main highway to aware these NMVs and other three wheelers of minor road.

✚ Ill-treated Nose

Problem: Almost every nose of road divider is quite tough to get noticeable to the driver. The absence of delineator, road marking with reflective paint is almost common scenario at various divider noses, which had been damaged due to vehicle collision, as perceived.

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Figure 09a: Ill Treated Nose (Near LRP 068)

Recommendation: Proper end protection of concrete median is needed to protect the barrier from impact. Moreover it is very important to aware the drivers of such hazard well ahead by providing appropriate Traffic Sign and Rumble Strips. By providing the appropriate *Hazard Marking* with Sand Cushion Drum is also needed to protect the Nose of such medians.

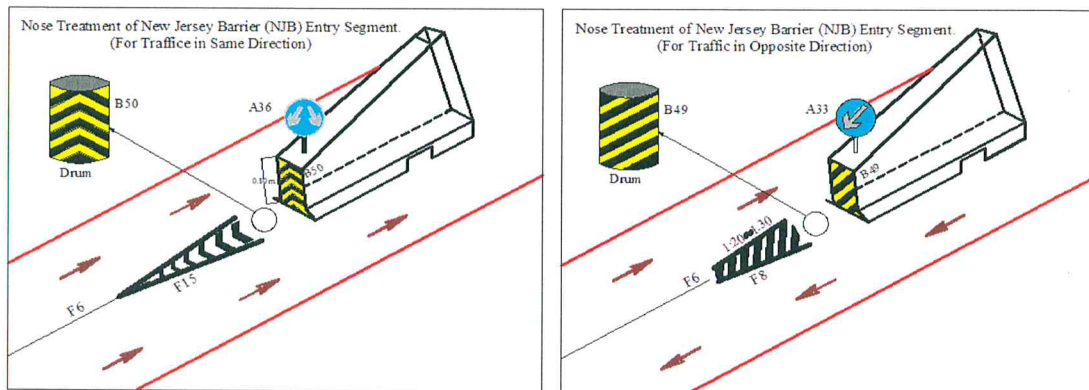


Figure 09b: Typical design of well Treated Nose

Occupied Bus Bay

Problem: Every Passenger Shade and Bus Bay are more or less occupied with illegal activities.

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Figure 10: Occupied Bus Bay (Near LRP 013)

Recommendation: Designated Bus-Bay should be identified and illegal activities need to be stopped with the help of local administration. Appropriate signs and road marking needs to be placed at the bus stop areas.

Conclusion

Road Safety problems and recommendation are given, following various RHD Manual and Guidelines. For smooth implementation of Road Safety measures at the field level, Chief Engineer of RHD has already issued “সড়ক নিরাপত্তা বিষয়ক কারিগরি নির্দেশিকা” which will contribute greatly for keeping road safer. Any ambiguity or explanation can be sought from the Road design and Safety Circle of RHD. Last of all, as this Road Safety Audit Report is prepared by Road Safety Division of RHD with time and resource constraints, the report may have some limitations and therefore might need detailed investigation case by case.