

# Road Transport Capacity for Emergency Response



Research Institute of Highway, MOT, PR China



# Main Contents



1

**Emergency teams**

2

**Emergency supplies & equipment**

3

**Information system**



# Emergency teams



**Teams for  
recovery of  
damaged road**



**Fleet for  
materials  
delivery**



# Emergency teams



**Teams for recovery  
of damaged road**

**Team at the national level**

**Team at the local level**



# Team at the National Level



- ❖ **Composed of armed police as national team for recovery of damaged road**
- ❖ **A total of 12 teams in main regions**
- ❖ **For national defense road, major bridge/tunnel**
- ❖ **For major emergency response**



# Team at the Local Level



- ❖ **Provincial and municipal road transport emergency response agency is responsible for the team organization & routine management**
- ❖ **With people from road administration & maintenance entity**
- ❖ **Selected road maintenance entity through open bidding**
- ❖ **Road maintenance and emergency recovery of damaged road based on contract agreement**



# Emergency teams



**Teams for  
recovery of  
damaged road**



**Fleet for  
materials  
delivery**



# Emergency Fleet and Team



- ❖ Provincial transport emergency response agency is responsible for local fleet & team organization
- ❖ To establish passenger and freight service teams respectively based on prefecture city
- ❖ To sign agreement with large regional motor carriers for the provision of emergency transport service
- ❖ With tax exemption and fuel subsidy for those listed in the emergency transport service





# Transport equipment and their conditions



- ❖ **Capacity reserves units shall keep the emergency transport reserves vehicles in good condition, and strengthen the daily maintenance work**
- ❖ **Technical class of vehicles achieve above secondary level**
- ❖ **Vehicle age shall not be more than 5 years or driving mileage no more than 150,000 vehicle-km**

# The transport capacity archive & management



- ❖ **Establish emergency transport capacity archive, including the entities, vehicle tonnage (seat), type and number of persons**
- ❖ **Exam technical conditions, reserve capacity, entity and personnel changes every year; adjust, supplement and update the records accordingly**
- ❖ **In principle, no less than 300 passenger vehicles、 500 freight vehicles for each of the provinces**



# Social forces and participation



- ❖ Provincial emergency management agencies formulate emergency plans according to local conditions, mobilize societal forces, organization procedure and decision-making procedures.
- ❖ In the case of more highway transport capacity is needed, it should be turned to the people's government at the same level to get the support from the social forces.



# Emergency personnel safety protection



- ❖ **Provide different types of public emergency personnel safety equipment combined with instructions, take necessary safety measures.**
- ❖ **Provide personal accident insurance for those who participate in emergency response services**



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# Emergency supplies & equipment reserve system



**National Highway  
Emergency Road  
Transport Materials  
Storage**



**Local Highway  
Emergency Road  
Transport  
Materials Storage**



# National road emergency transport materials storage center



**Take into consideration of the following factors :**

- ❖ The layout of the national expressway system
- ❖ The timeliness of emergency supplies scheduling and the rationality of covered areas
- ❖ Regional climate and geological conditions
- ❖ The covering area for each of the centers is about 500-800 km



# National emergency road transport materials storage center



- ❖ National emergency transport materials storage centers are to be set in Helongjiang, Liaoning, Neimenggu, Beijing, Hebei, Zhejiang, Jiangsu, Henan, Shanxi, Gansu, Hubei, Sichuan, Yunnan, Guizhou, Guangdong, Fujian, Qinghai, Xizang, Xinjiang, and etc.





# Provincial emergency transport materials storage spot



- ❖ Provincial and municipal transport departments are responsible for road transport emergency materials storage in their regions
- ❖ General principles: taking into account of the following factors:
  - Types and characteristics of the road traffic incidents in the jurisdiction area
  - Distribution of road transport emergency fleet and team
  - Various facility resources available from enterprises of road maintenance, construction and road transport
  - The service area for each center should cover about 200 km



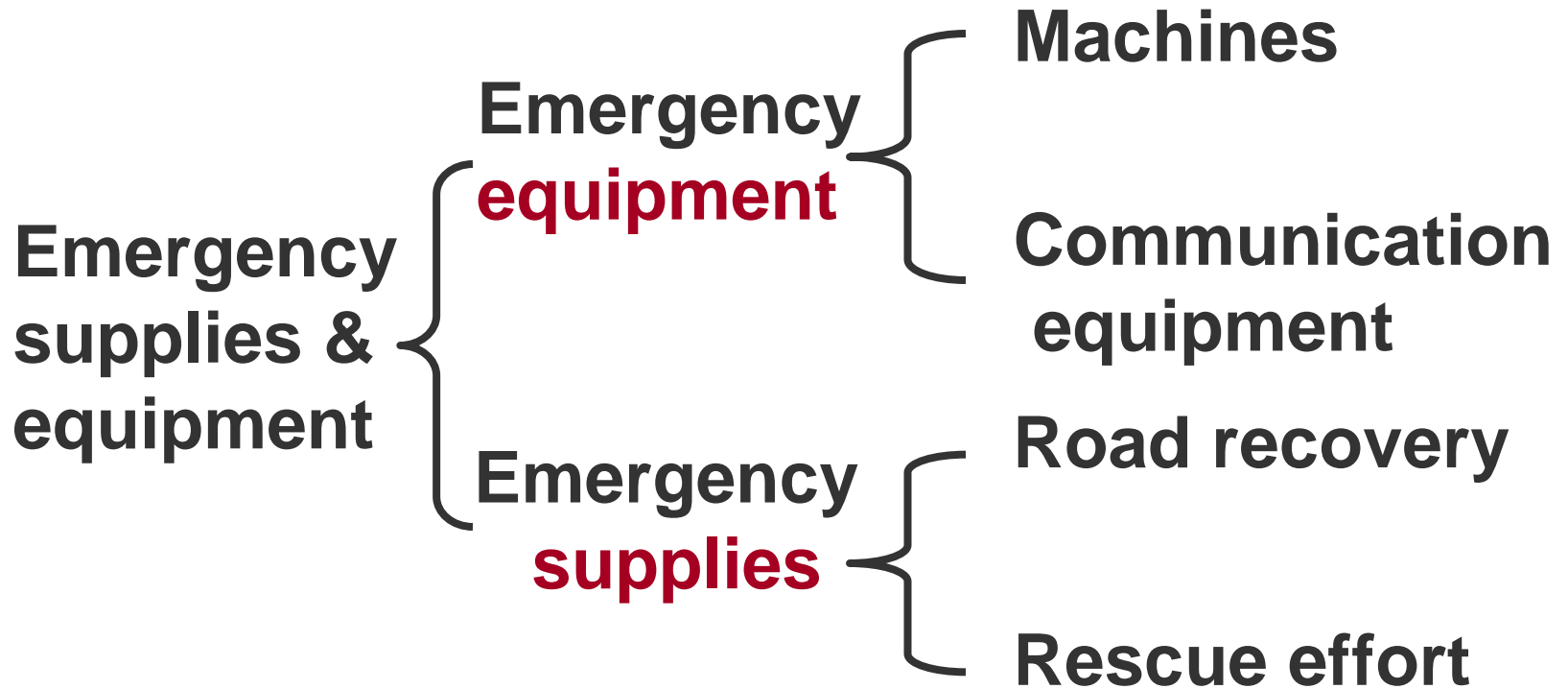
# Emergency supplies management system



- ❖ **Entrustment system for the management of national road transport emergency materials storage authorized and supervised by MOT; the dispatch/delivery of the materials should be approved by MOT.**
- ❖ **The provincial transport department is the trustee responsible for the construction and management of the materials storage.**
- ❖ **Special team is organized by the provincial transport department with closed management system including specialized warehouses and specially assigned persons.**



# Emergency supplies equipment types





# Emergency equipment



- ❖ Emergency **machine equipment** including steel bridge (Bailey bridge), excavator, shovel loader, bulldozer, land scraper , compulsory mixer , form spreader , truck cranes, snow blower , air compressor , platform trailer , oil can , fire engine, dynamo , pumps , life detector
- ❖ Emergency **communication equipment** including vehicle station, USW handset, maritime satellite mobile phone and portable generator



# Emergency supplies



- ❖ **Materials for road recovery** including asphalt, gravel, sand rock, cement, straw bag, gunny bag, snowmelt agent , skid resistant , oil absorption material, etc
- ❖ **Rescue efforts** including protective clothing and equipment, tents, fuel, safety sign, emergency transport vehicles, vehicle maintenance tools and protective equipment etc



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# Highway transport emergency response communication platform system

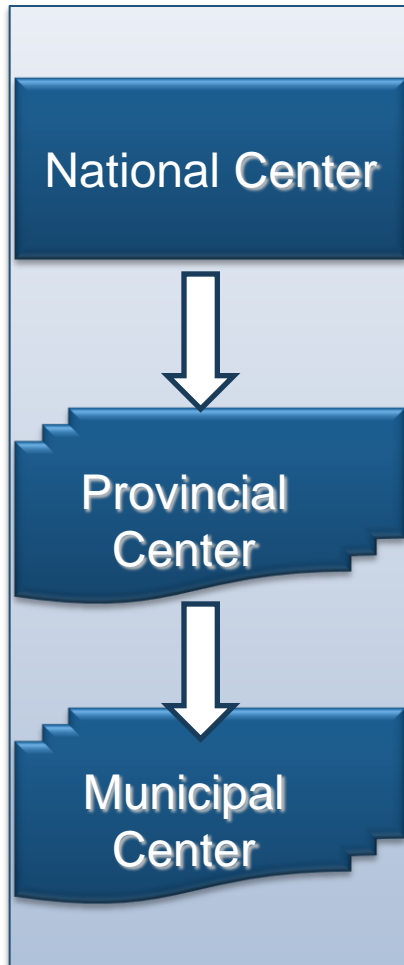


❖ Based on full integration of the existing transport communication and information resources, to establish and perfect “unified management, multiple networked communication, fast response, effective process” highway transport emergency communication system.

❖ Emergency response centers at ministerial, provincial and municipal levels established.



# Emergency Response System Framework



To improve road net management, efficiency, service level & rescue capacity





# National road network management and Emergency response center





# System function---Essential data inquiry and analysis



IIS Framework - Windows Internet Explorer

http://10.1.1.76/its/framework/overall/action/change.do?systemid=52cbf57e2011ef800120134214c00017

## 公路数据库和WEBGIS系统

欢迎您, 办公厅! 首页 修改密码 退出 帮助

个人工具 选择子系统

数据浏览 数据查询

框选放大 框选缩小 全国视图 全图放大 全图缩小 全图漫游 点选查询 清除选择 视图输出

图例可视 当前查询

- 国道主干线
- 国家高速公路网
- 高速公路
- 国道
- 省道
- 特大桥
- 大桥
- 桥梁
- 隧道
- 渡口
- 铁路
- 河流
- 省会城市
- 地级市
- 县

鹰眼视图

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# Video Monitoring



- ❖ Data communication among 15 provinces/cities including road condition images captured by video system



# Road Condition Information Management of MOT



## 路况信息简报

(2009年8月31日上午9时)

公路局

签发人: 李华

### 全国路网运行监测分析周报

(2009年8月24日—8月30日)

24日至25日,广东西南部、广西北部、青海东北部、四川西部地区出现中到大雨,其中,四川地震灾区的局部地区出现暴雨。26日至30日,我国西北地区东南部、华北南部、黄淮、江淮、四川盆地、江汉、江南北部等地出现一次较强的降雨过程,部分地区出现暴雨,河南、安徽、湖北、四川等局部地区出现大暴雨。30日开始,我国降雨强度降低,降雨区域有所缩小。

从上周路况系统上报信息看,受上述天气及交通事故的影响,河北、天津、广东、河南、云南、四川、湖北、重庆等8个省(市、区)共计7条高速、5条国道(四川G108、G213、G317、G318,湖北G209)、6条省道(河南S322、云南S214、重庆S103、S202,四川S308、S309)先后出现局部交通中断。目前除云南S214开远市境内建水至绿春段发生山体滑坡,造成路基和便道被毁,交通中断外,其它国道、省道干线公路运行基本正常。

2009年8月28日9时52分,青海省海西蒙古族藏族自治州大

第1页共4页

交通部路况信息管理系统 - Windows Internet Explorer

文件(F) 编辑(E) 查看(V) 收藏夹(A) 工具(T) 帮助(H)

http://lks.moc.gov.cn/login.aspx

交通部路况信息管理系统

## 交通部路况信息管理系统

用户名:

密码:

登录

交通部路况信息管理系统 Version 2.0  
Copyright ©2006 交通部 版权所有 京ICP备05031682号  
建议使用IE5.0以上版本, 1024\*768分辨率浏览

完成 Internet 100%

开始 路网中心介绍.ppt... 交通部路况信息管... 1s 地址 17:35



# Road weather forecast & bad weather early warning



## 交通部重大公路气象预警

2008年第01期  
(1月19日16时)

交通部公路司

签发人: 戴志磊

全国大范围降雪, 宁陕晋鲁豫鄂苏皖等地有大到暴雪

交通部门要积极做好应对工作

根据中国气象局今天发布的天气趋势预报: 未来三天, 我国自西向东将出现较大范围的雨雪天气, 西北地区东部、华北南部、黄淮、江汉地区以及江淮北部等地的部分地区雨雪较大, 其中, 青海东南部、甘肃中南部、宁夏、陕西中南部、山西南部、河南大部、湖北大部、山东南部、苏皖中北部等地有大雪, 局部地区有暴雪, 江南北部的部分地区有中雨或雨夹雪。



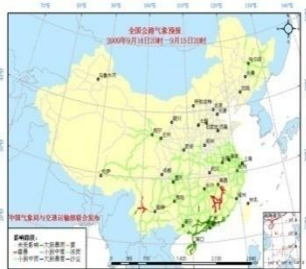
第1页共7页

中国气象局与交通运输部 2009年09月14日联合发布全国主要公路气象预警(正式稿)

中国气象局与交通运输部 2009年09月14日

联合发布全国主要公路气象预警

14日20时至15日20时, 西藏中东部大部、青海大部、甘肃西部偏南地区、陕西南部、黑龙江北部和中部、吉林东北部、黄淮南部、江淮、江汉、江南、华南以及西南地区大部等地有小到中雨或阵雨, 其中, 广东西部和南部、海南北部、广西东南部等地有暴雨, 其中, 广东西南部和珠江口地区、海南北部等地的部分地区有大暴雨(100~200毫米), 广东西南部局部地区有特大暴雨, 最大降水量约有250~280毫米, 东北地区北部、西北地区中部、西藏东南部、西南地区大部、黄淮东南部、江淮、江汉西部、江南中东部、华南等地将有雷暴天气, 其中, 青海南部、四川西北部、云南西部、重庆中东部、湖北西南部、江西东南部、福建大部、广东大部、广西东南部、海南北部等地有雷雨大风、短时强降水、冰雹等强对流天气。



受大到暴雨影响的主要路段有:  
京港澳高速(G4)广州—广东深圳段  
广澳高速(G4W)广州—广东中山—珠海—澳门段

第1页



Daily weather forecast by China Central TV



# China Highway Information Service



中国公路信息网 - Windows Internet Explorer

http://www.chinahighway.gov.cn/roadInfo/index.do

中国公路信息网

2009年09月16日 星期三

## 中国公路信息网

CHINA HIGHWAY INFORMATION SERVICE

首页 \ 路况查询 \ 路况地图 \ 公路气象 \ 公路地图 \ 出行常识 \ 信息订阅 \ 路况转载

公路信息搜索 search

从北京[切换]  
到北京[切换]  
搜索

### 路况信息管理

路况快讯 [RSS订阅] MORE

- 行受阻。 (09-09-16 10:24)
- G010线(同三线)上海市青浦区内圈因施工养护通行受阻。 (09-09-16 09:09)
- S1308线(同三线)上海市奉贤区外圈因施工养护通行受阻。 (09-09-16 09:05)
- S001线(石黄高速)河北省石家庄市冀城东站至辛集站恢复通车。 (09-09-16 11:29)
- G025线(唐津高速)河北省唐山段恢复通车。 (09-09-16 11:28)

今日路况 全部路况 自然灾害 非灾害性 恶劣气候 事故灾害  
今日畅通 施工养护 重大社会活动 其他(突发性) 其他(计划性) 道路已畅通

- ❖ Route/facility inquiry
- ❖ Driving navigation
- ❖ Road condition information
- ❖ Road weather information
- ❖ Travel advice

# Emergency response function (developing)



部级公路交通应急处置平台 - Windows Internet Explorer

文件(F) 编辑(E) 查看(V) 收藏夹(A) 工具(T) 帮助(H)

http://202.149.226.86/gjyj/index.aspx

部级公路交通应急处置平台

百度搜索

系统管理 | 退出系统



## 全国公路网管理与应急处置平台

路网管理

应急处置

### 应急处置

- 1 104国道线交通事故高发预警 [处置](#)  
G104110115 发生时间: 2005/11/22 0:00:00
- 2 交通事故预警:307国道施工段易... [处置](#)  
G307130103 发生时间: 2006/8/23 0:00:00
- 3 大风 [处置](#)  
G209150104 发生时间: 2008/9/2 0:00:00
- 4 预警:204国道桥梁施工导致事故多发 [处置](#)  
G204310114 发生时间: 2006/11/24 0:00:00
- 5 兰溪市召开330国道迎宾大道事故... [处置](#)  
G330331122 发生时间: 2008/5/9 0:00:00
- 6 湖南暴雨红色预警 [处置](#)

总计: 10 筛选

- 接报管理
- 上传下达
- 预案管理
- ★ 资源管理
- 统计分析
- 后期处置



# Thank You !

