The achievement of “safety and peace of mind” is an objective of many fields in Japan today. The railway industry is no exception. JR East has an objective of securing safety for users, but it goes even further to give peace of mind to users. So, what then is the “orthodox” approach to achieving a situation with safety and peace of mind? That is probably improving safety as an objective fact and informing users of that fact to lead to the subjective psychological state of peace of mind. Let’s think a bit about what sort of states safety and peace of mind are for a railway service. In terms of safety as an objective fact, accidents are on the decrease overall as seen in the JR East safety record presented in this issue of the Technical Review. While there are rare examples of serious loss of safety such as the Fukuchiyama Line derailment accident, it goes without saying that Japanese railways have achieved some of the highest levels of safety in the world. 

In terms of the psychological state of peace of mind, however, the results of a survey on insecurities about a variety of hazards (the state opposite of peace of mind) is informative. Figure 1 shows perceptions toward 51 hazards where responses were on a six point scale with “not insecure at all” as 0 points and “extremely insecure” as 5 points. The sample population was 1,200 men and women from across Japan selected from the basic introduction.

Fig. 1 Averages of insecurity ratings regarding various hazards (from Nakayachi / Shimada (2010), modified by the author)
residents using a two-stage random sampling method. The figure shows averages for the individual hazards sorted by level of insecurity. Try to find where railway accidents are. They are not easily found if starting from the highest level of insecurity, as they are found in bottom fourth. This shows that people feel quite secure concerning railway accidents out of all of the hazards presented. That is in contrasts to traffic accidents (automobile accidents) in the same transport category that rank high in terms of insecurity at 5th place. While airplane accidents rank lower than railway accidents by three hazard items, we can easily say that the relative level of insecurity regarding railways is low when taking into account the number of users and trains runs daily. Looking at relation of safety to peace of mind for railways in this way, the orthodox approach of safety leading to peace of mind seems to be functioning.

Railways, however, are actually an exception to the rule. The connection between safety and peace of mind is not always that simple. For example, recent surveys have shown heightened insecurity regarding crime and public order even while it is a statistical fact that violent crime is not on the increase. Insecurity regarding food similarly shows a high sense of insecurity even though deaths by food poisoning have dropped dramatically from not too long ago. Overall level of safety of a country should be reflected in the average lifespan of its citizens. With Japan, the 86.44 years for women is the highest in the world, and the 79.59 years for men is also among the top few (surveyed by the Ministry of Health, Labour and Welfare in July 2010). From those facts, we can say that Japan is one of the safest nations in the world. What is important here is that Japanese know well that they have one of the longest lifespans in the world. Even so, insecurity towards food, public order, medicine and welfare is high. This means increasing objectively or statistically measured safety and informing people about the increase will not necessary alleviate people’s insecurities.

I would like to see JR East maintain a simple and honest stance of pursuing peace of mind by increasing safety. But, psychologically, a record of safety alone is insufficient to achieving it; thus, other efforts seem necessary to give people that peace of mind.

Academically shared conceptual rules and measurement methods cannot be used when attempting to perceive peace of mind from a psychological point of view. To approach the issue of safety and peace of mind psychologically, we can study it from the aforementioned aspect of insecurity or handle that as an issue of trust.

Various definitions of trust can be found, but trust can be said to be expectation that one will not come to harm even when there is a risk of harm depending on how the other party acts. Trust is more than just the belief that the other party will not lie; it is the ability to consign something to that party even bearing the risk that one may come to harm depending on the other party’s stance. In that meaning, trust is appreciation of the other party. At the same time, peace of mind is one’s own psychological state. So, even though trust and peace of mind are different despite being the same psychological concept, they can be used interchangeably as day-to-day terms. While the nuance of “I can trust this company” and “I can feel secure about giving work to this company” may differ slightly, they in essence mean the same. From the results of the social survey, we can find a high correlation between trust and peace of mind, that is, as trust in an organization that manages risk increases, insecurity towards that risk (the opposite psychological state as peace of mind) lowers. This is especially evident in use of technology in day to day life. The aforementioned relationship between high level of safety and low level of insecurity with railways operators may not be directly connected; high trust in railway operators may lead to lower sense of insecurity.

If the “peace of mind” in “safety and peace of mind” can be replaced by “trust in the risk managing organization,” what brings about the trust? It is obvious, as previously noted, that one cannot gain trust by just building up a safety record. Even thinking in simple terms, we would not imagine railway users statistically analyzing the past safety record to decide whether to trust or mistrust a company. But it is true that the safety record is an element that contributes to trust, even without conducting an analysis. Even if safe, trust in the operator does not simply increase. If a string of accidents occurs and the safety record is harmed, trust will easily be lost. This is called the asymmetry principle of trust. Why, then, does an accident ruin trust? From the user’s point of view, it is only natural that trust be lost if damage is suffered. Yes, that is natural, but we need to analyze the psychological aspects supporting that natural way of
thinking with particular attention on appreciation of the other party.

When deciding whether or not to consign something to another party, one would almost certainly not consign it if the other party were considered incompetent. Appreciation of competence is an important factor in building trust. Causing an accident damages appreciation of ability to fulfill a role as a specialist, thus lowering trust. But elements leading to trust are more than just appreciation of specialist abilities. Another important element is appreciation of the other party's motivation or intent. In simple terms, this assessment of whether or not the other party is diligently working to the best of his or her abilities. Even if users know that the people working on safety management at a railway company are very competent, the railway company will no longer be trusted if the atmosphere of the organization makes users feel that the company does not care about what happens to them. On the other hand, if everyone at the operator is seen as being competent and working diligently, users will trust the operator and receive services with peace of mind.

To earn the trust of users, a railway operator must make users feel that the company is being run on a foundation of high technical abilities and is working the best it can without cutting corners. So, when do users feel that the railway operator is working the best it can? The answer to that can be broken down into two main parts. Those can be called positive trust and negative trust that work in opposite directions.

Negative trust is trust formed out of expectation that the operator will probably not cut corners as it will come under intense criticism after an accident. Railway accidents are quite obvious when they happen, and the operator will have no place to hide. Positive trust, on the other hand, is trust formed out of expectation that the operator will work responsibly even without such a system for monitoring and disciplining. Both of those are expectation that the operator will not cut corners, but the reasons are completely different. Negative trust where one works responsibly due to monitoring and disciplining is trust rooted in deterrence, and that is said to be true trust in the essential meaning of the word. The problem with negative trust is the cost of maintaining a system for monitoring and disciplining. Scrutinizing whether or not individuals involved in operations are working diligently requires personnel to conduct such monitoring. Personnel costs thus will be incurred. And as there is also the issue of checking whether or not those doing the monitoring are working diligently, upper level staff to check the monitoring work is also theoretically needed. Taking this into account, complete monitoring is fundamentally impossible, and there would be no limit to the costs required. Such costs would be borne not only by the mistrusted operator, but eventually bounce back on the users who do not trust the operator in forms such as increased fares, hassles, and time. In light of that, we can see that positive trust is what is really important to both users and the operator. To gain such positive trust, however, the operator cannot simply say "trust us without a system for monitoring and disciplining". As I have previously mentioned, trust comes not from simply deeds without words under the belief that building a firm record of safety will be convincing. So, what needs to be done? One method is for the operator to show that it resigns to take on at its own initiative improvement of transparency required for negative trust. Research results show that voluntary acceptance of monitoring creates positive trust. In other words, demonstrating a stance of accepting monitoring and, if faulty work is found, accepting any sanctions on one's own without outside pressure gains positive trust where people perceive that the operator does not need monitoring if it is so confident.

Another method is to think from the user's perspective as to what is needed to gain trust, in other words, to share values. As previously mentioned, even if one knows that the people working on safety management are very competent, they will not be trusted if they do not care about what happens to users. That is a situation where values are not shared with users. On the other hand, if they are seen as perceiving safety in the same way as users and lamenting over endangering the health and lives of users in the event of an accident instead of worrying about being under pressure by society, positive trust may be created. Yet it is difficult to put oneself in the another person's shoes even if coming into direct contact with them every day in a user-staff relationship. Those in the medical field too can only understand patients' feelings when they themselves become ill. People involved with railways probably have experienced how they only come to understand the user's feelings when they themselves become ill. Consequently, systematic surveying becomes necessary instead of taking a view that one understands the users' feelings due to contact with them every day. In
such surveys, researchers on railway safety and psychology can probably work together.

I would like to end by introducing an event that I experienced. Last year (2010) saw a record hot summer in Japan. One night, I got on the last train of a certain private railway waiting for it to depart. There were about ten other passengers in the car and two railway personnel who seemed to be off the clock and obviously not crew for the train. At that time, some sort of trouble occurred and station personnel were hurrying about the platform. The personnel on the train went and spoke to those on the platform, and then they came back to the train and announced personally to each passenger that the air conditioning of the car had broken. As it would soon get hot, they recommended that everyone move to another car while apologizing to the passengers. Although this event may not seem like much on paper, the behavior of the railway personnel was well received by the passengers on that train. One passenger (who seemed to be a bit inebriated) praised them, saying that he had never experienced such kindness in more than 20 years of riding that line. If you think about it, being happy about having been forced to move due to a mechanical failure is a bit strange. But I felt the same way as the tipsy passenger. The reason is that the railway personnel shared the passengers’ feelings that (1) something had happened and they wanted to know what the problem was and (2) being hot was unpleasant. On top of that, they fulfilled a role that only railway personnel could. No special skill is needed to do what they did. They looked a bit puzzled as to why they were being praised. I am sure that if the in-cabin public address system were used to make the same announcement, passengers would not be emotionally moved in the same way. Those personnel were in the same situation as the passengers, sharing their feelings, and they fulfilled a duty to passengers in a timely manner rather than doing a predetermined job. They thus won over the trust of the passengers there. In that way, I was able to experience first hand the theory of shared values creating trust being verified.

Reference:
7) Toshio Yamagishi, Shirau no Kozo [in Japanese], (University of Tokyo Press, 1998)